

NOTES ON SOME MISCELLANEOUS COLEOPTERA, WITH
DESCRIPTIONS OF NEW SPECIES.—PART II.

By ARTHUR M. LEA, F.E.S., Museum Entomologist.

[*Contribution from the South Australian Museum.*]

[Read September 14, 1916.]

PLATES XXXII. TO XXXIX.

CUCUJIDAE.

NEPHARIS.

This genus has been transferred from the *Colydiidae* to the *Silvanides* of the *Cucujidae* by Grouvelle (Ann. Soc. Ent. Fr., 1912, p. 320), who also (p. 322) proposed a new genus (*Nepharinus*) for *N. goudiei*. I have now to describe another remarkable species of the group, recording it for the first time from Queensland.

NEPHARIS DODDI, n. sp.

Castaneous, upper-surface somewhat darker than under.

Head wide, almost flat, each side with a feeble longitudinal depression; with rather small punctures, becoming denser and larger about base; each side with a conspicuous notch at the position of the eye. Antennae clavate. *Prothorax* wide, evenly convex along middle, sides flattened and each with from ten to fifteen serrations, the apical one more sharply defined than the others; punctures as on base of head. *Scutellum* widely transverse. *Elytra* about the width of prothorax, parallel-sided to near apex; finely striate, the interstices each with a row of punctures; with wide margins of almost even width throughout. *Under-surface* with sharply-defined punctures, varying from rather small on flanks of prosternum to rather coarse on abdomen. *Femora* stout, strongly dentate. Length, $2\frac{1}{4}$ - $2\frac{1}{2}$ mm.

Hab.—Queensland: Cairns district, three specimens from nest of a small red ant of the genus *Pheidole* (F. P. Dodd). Type, I. 5772.

The absence of prothoracic costae associates this species with *serraticollis*, from which it is distinguished by its smaller size, much smaller punctures, head wider and scarcely notched in front, and margins of elytra not notched at apex. Seen from below, each side of the head appears as a wide thin flange, with the interspace moderately elevated, coarsely

punctured, and acting as a partial protection for the antennae; the eye on each side is protected at the rear by an almost spiniform process, and is very distinct from below and but little visible from above.

EUTERMICOLA, n. g.

Head almost concealed from above, almost vertical and flat; clypeus with sutures completely obliterated; labrum short, strongly transverse. Eyes small, subreniform, coarsely granulated, concealed from above. Palpi short and stout, apical joint of each subelliptic and obliquely truncate at apex. Antennae apparently eleven-jointed, slightly thickened in middle, joints closely applied to each other, basal one concealed from above, the others each with a ring of bristles. *Prothorax* strongly sculptured. *Scutellum* short and transverse. *Elytra* strongly sculptured, parallel-sided to near apex. *Prosternum* with front margin incurved to middle. Mesosternum very short. Metasternum about as long as basal segment of abdomen along middle, episterna parallel-sided. *Abdomen* composed of five segments, first along middle conspicuously longer than second, but from about middle of coxae just as long, second slightly longer than third, and third than fourth, fifth about once and one-half the length of fourth. *Legs* rather short and stout: front coxae inserted about one-fourth from base of prosternum, separated by a short and narrow intercoxal process, hind coxae stout, almost touching sides of abdomen; femora grooved on apical half of under-surface, edentate: tibiae short, slightly dilated at apex, which is notched on one side to receive base of tarsi, and with two small spurs; tarsi thin, joints closely applied together and almost parallel-sided, claws thin, simple, and widely diverging.

A highly-remarkable genus, which I refer to the vicinity of *Nepharinus* (principally on account of the antennae), but for which quite possibly a new family should have been proposed. The joints of the antennae are so closely articulated that it is difficult to count them, but they appear to be eleven in number. The tarsi, under a Coddington lens, appear to be parallel-sided and almost non-articulate, and certainly no joint is bilobed: but under a compound power the front ones appear to be five-jointed, the joints slightly narrowing to the fourth, the first joint seems to be slightly longer than the second or third, the fifth from some directions appears to be composed of two joints, of which the basal one is the length of the fourth, but this is due to a few setae. I have found it quite impossible to count the number of joints of the four hind tarsi, as the basal portion is quite

concealed and certain transverse impressions may belong to the tips of the joints themselves or to impressions across their middle. The body is winged.

EUTERMICOLA SCULPTICOLLIS, n. sp.

Pl. xxxii., fig. 1.

Castaneous, elevated parts of upper-surface, antennae (tip excepted), and knees darker.

Head densely longitudinally and obliquely strigose on basal half, front half highly polished and impunctate or almost so. Antennae about as long as the front of the prothorax is wide, all the joints, except the apical one, transverse, apical joint flavous, about as long as wide and distinctly narrower than the preceding one. *Prothorax* longer than the apex is wide, apex finely margined, with four longitudinal elevations commencing near the apex, parallel with each other for some distance but not to base; with a wide and deep excavation on each side of basal half; basal two-thirds longitudinally strigose and somewhat asperate. *Elytra* the width of base of prothorax, parallel-sided to near apex, which is widely rounded; each with a conspicuous ridge commencing at base just outside of the scutellum, and continued almost to apex, the space between it and suture strongly sloping downwards on basal half, but almost flat posteriorly; an acute carina commencing on each shoulder and deflected downwards towards apex, between the two acute carinae two others, almost as distinct beyond the middle, but becoming very feeble and within a depression towards base, where also there is another one which vanishes before the middle; surface in places finely rugose and without distinct punctures. *Prosternum* with numerous transverse corrugations. Abdomen minutely punctate in middle, more noticeably at sides. Length, $3\text{--}3\frac{1}{2}$ mm.

Hab.—North-western Australia: Derby, from nests of *Eutermes (palmae)*, Frogg., M. S.). Type, I. 5771; co-type in Western Australian Museum, No. 7486.

The two median elevations of the pronotum are in the form of narrow parallel costae on their apical half, but towards the base they angularly diverge from each other and then converge till they almost meet at the base, the outer elevation on each side is similar to the inner ones for some distance, but is then thickened and strongly curved, the curved portion causing a bulging appearance near the base and marking the outside of a large excavation traceable almost to the middle of the base; the junction of the pronotum and prosternum is marked on each side by a narrow carina that terminates in a foveate depression below the

swollen basal portion. Mr. W. D. Dodd obtained six specimens, in company with a friend who also obtained one, and sent it to the Western Australian Museum. Very few species of beetles have been obtained from nests of white ants in Australia, but such as have been are nearly all of exceptional interest.

LUCANIDAE.

LISSAPTERUS TETROPS, n. sp.

♂. Black, parts of legs and of antennae obscurely diluted with red.

Head very wide, each side bilobed, the posterior lobe with coarse, crowded punctures, sides about base with large round punctures, elsewhere smooth and impunctate; each eye completely divided by the canthus and distant about its own diameter from the side. Mandibles strongly arched, when clenched enclosing a space about one-third the size of head, tips obtusely pointed, inner-side about middle obtusely bicuspidate. Three apical joints of antennae wider, but of much the same shape as the preceding ones. *Prothorax* almost twice as wide as long, sides increasing in width from base to near apex, front angles produced and slightly rounded; sides channelled and with numerous fairly large punctures, somewhat similar punctures about base, elsewhere with sparse and minute ones. *Scutellum* smooth, with a few punctures. *Elytra* the width of prothorax at base, from about middle rounded; with punctures at extreme base, on margins and on apical slope, elsewhere impunctate or almost so. Front *femora* with a narrow ridge ending in an obtuse tooth; front tibiae with two strong teeth, and from three to six smaller ones, the other tibiae acutely dentate about middle and apex. Length (including mandibles), 24-30 (♀, 23-24) mm.

♀. Differs in having the head much smaller, with a greater portion of each side coarsely punctured, mandibles much shorter, with coarse punctures on upper-surface, prothorax with sides less dilated to near apex, front tibiae with fewer and smaller teeth and hind tibiae not dentate at apex (although the apical spurs are as long as those of the male).

Hab.—New South Wales: Barrington Tops, under logs at an elevation of 4,800 feet (H. J. Carter, A. Musgrave, and T. G. Sloane). Type, I. 5770 (co-type, K. 37,719 of Australian Museum).

The male differs from the male of *howittanus* in being less convex, in the very different forehead (this being smooth and gently depressed in the middle instead of overhanging), each side of head bilobed (instead of trilobed), and the

punctures throughout the upper-surface smaller and distributed over smaller areas. The female differs from the female of that species in being less convex, with smaller and sparser punctures, sides of prothorax less rounded, and shoulders less produced. From the description and figure of the female of *pelorides* (the only sex of that species at present described) it differs in having the prothorax nonfoveate and the eyes completely divided by the canthi (so that there is an upper, and an under, one on each side of head), joints of antennae and the tibiae somewhat different. On one (only) of the four males before me there is a small fovea in the exact centre of the forehead. The cusps of the mandibles are placed one above the other, but on one specimen they are represented by feeble swellings only, whilst on another the upper one only is present, but is enlarged and produced upwards as a subconical tubercle. The elytra, when quite free from grease, are seen to have very feeble rows of minute punctures, but these are usually concealed; they have a few fine irregular scratches.

SCARABAEIDAE.

BOLBOCERAS.

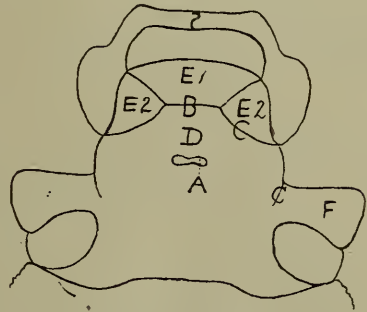
The sexes of the larger species of this genus are so strikingly distinct that without certain information it is in most instances quite impossible to mate them, and to attempt to mate specimens from widely-separated localities (although many of the species are very widely distributed) on mere general resemblance of the non-sexual parts is almost certain to result in error, and has been the cause of several mistakes in the past. Of Blackburn's groups, the first, and the first part of the second, consist of species whose females are generally very much alike and difficult to distinguish; the second part of the second group contains species whose females are usually quite as distinct (or even more so) than their males; the third group consists of small species without conspicuous horns on either sex; Blackburn remarked of it that there was "either very little external difference between the sexes, or the difference is of a kind that leads to the supposition of the two sexes being distinct species," and he thought it possible that he had described the sexes of some species as distinct ones. I think it is extremely probable that he and others have done so, and until the sexes can be mated to a certainty it appears to be actually preferable to name the sexes as distinct rather than to incorrectly mate them; but not being able to confidently mate specimens of even one of many species before me, I prefer to leave the group untouched.

Although the majority of the Australian species may be readily referred to Blackburn's groups, a rather more natural grouping would appear to be as follows:—

1. Blackburn's Group 1 (several species have but one of the two characters noted for this group) and the first part of Group 2 (except *proboscideum*).
2. The second part of Group 2.
3. One species—*proboscideum*.
4. Blackburn's Group 3.

In his revision of the genus he had occasion to give distinctive names to certain parts of the head. To make these easily recognisable a figure of the head of *truncatum* is given here. The names that he used are as follows:—

- A. Frontal elevation (a tubercle, horn, or ridge).
- B. Clypeal elevation (usually a carina).
- CC. Frontal margins (also usually a carina).
- D. Frons (usually a more or less depressed space).
- E. Clypeus. 1. Middle area.
- 2. Lateral areae.
- F. Frontal wing (an enlarged canthus).



BOLBOCERAS TRUNCATUM.

Usually the parts named are readily traceable, but specific and individual variations are numerous. On the female of *truncatum* the clypeal elevation is frequently in the form of an acute carina, but it gradually disappears till on some specimens the clypeus and the frons are without a dividing line or suture, although the lateral areae are marked off by acute carinae.

BOLBOCERAS PROBOSCIDEUM, Schreib.

Pl. xxxiii., figs. 37 to 42.

Bolboceras proboscideum, Schreib.: Trans. Linn. Soc., 1802, p. 189, pl. xx., fig. (male) 2; Westw.: *l.c.*, 1848, p. 13, pl. iii., fig. (female), 1; W. S. Macleay: Hor. Ent., i., p. 122; Griff.: Anim. Kingd. Ins., pl. xl., fig. (male) 4; Frogg.: Aust. Ins., pl. xvii., fig. (male), 1.

Australasiae, Kirby: Trans. Linn. Soc., 1818, p. 462, pl. xxiii., fig. (female) 5.

var. *Kirbyi*, Westw. (*nec* Hope, *nec* Bainbridge): *l.c.*, 1848, p. 13, pl. iii., fig. (male) 2.

var. *terrae-reginae*, Blackb.: *ante*, 1899, p. 25; Proc. Linn. Soc. N.S. Wales, 1904, p. 483.

The wonderful variation in the structure of the clypeus of the male of this species is without parallel in the Australian

Scarabaeidae. In general it may be noted as having a rostrum-like prolongation of a dilated and angular basal portion; the basal portion usually has a semi-double tubercle in the middle of its base, but this may be sometimes extended until it is on the apical portion; the basal portion varies from about one-fourth longer than the apical portion to less than half its length. The tip may be simple, produced downwards in a subconical process, or in a more or less conspicuously bifid one. The lower-surface from the tip may be continued in a more or less even curve to the base, or distinctly inflated from just beyond where the apical portion commences; but in one form (pl. xxxiii., fig. 38) there is an elongated, narrow, bifid process attached to the lower surface near the base; on this form the apical portion is always long, with its tip turned down and conspicuously bifid; it appears to be the typical one, but is much rarer than many of the others. I have seen no specimen with the lower process small or simple.

Hab.—Queensland, New South Wales, Victoria, South Australia.

BOLBOCERAS BAINBRIDGEI, Westw.

Pl. xxxiii., figs. 61 and 62.

The type of this species, as described and figured by Westwood, was a female, not a male, as he presumed; the male differs in having the concave portion of the prothorax larger, deeper, with much sparser punctures, and with the horn in front much larger; the head is very different, being widely flattened (or feebly concave) and impunctate between the eyes and a distinct tubercle behind each of these, the space in front of the eyes is also flattened, but with a distinct upward trend, with coarse punctures and without upright tubercles, but each side in front produced into an acute process overhanging the mandibles. On one small male, however, the frontal processes and the horn on the prothorax are smaller. The colour of both sexes varies from light castaneous to dark reddish-brown.

Hab.—Western Australia: Warren⁽¹⁾ and Swan Rivers.

BOLBOCERAS TAURUS, Westw.

B. puncticollis, MacL.

Pl. xxxiii., figs. 52 and 53.

The above synonymy, as given by Blackburn, appears to be correct; but he referred the species to his second group, although the front margin of the prothorax is deeply bifoveate (a character noted by both Westwood and Macleay).

(1) Several pairs, sent at the same time, by Mr. W. D. Dodd.

No doubt he considered the bicarinate (instead of multicarinate) hind tibiae as of more importance than the foveae.

BOLBOCERAS FRONTALE, Guer.

I have not seen the descriptions and figure of this species by Guerin and Klug, but a specimen sent from the British Museum, as compared with the type of *frontale*, is certainly a male of *serricolle* (given as a synonym of *frontale*), and the sexes of which were correctly described by Bainbridge. Many mated pairs of the species were taken at Beverley by the late Mr. F. H. du Boulay; of these the male usually has the prothoracic horns almost equilaterally triangular, but varying till combined they are but little more than a notched transverse ridge, as on some females; some males, on the other hand, have the horns porrect and much more acute. The elevations on the head also vary in size, but the deep prothoracic excavations are always very conspicuous on the males.

BOLBOCERAS CARPENTARIAE, MacI.

This species occurs in several parts of Northern Queensland and of the Northern Territory, and is variable in size and sculpture. On the typical form the prothoracic horns are small, and arise from an almost evenly convex surface; the front margin of the prothorax has two small, deep foveae, and the hind tibiae are multicarinate; the cephalic horn is about as long as the space between the eyes. The extreme form of the species has the cephalic horn much longer (fully twice the width of the head), the prothorax with the horns longer (almost the width of the head), and the space behind same obliquely flattened instead of evenly convex. I am unable to distinguish its female from the female of *cornigerum*, and several males before me seem to be connecting links between the two species.

BOLBOCERAS TRITUBERCULATUM, Bainb.

The female figured by Westwood as belonging to this species was incorrectly identified. There are in the Museum several specimens of both sexes, sent (mated) by the late Mr. F. H. du Boulay from Beverley. The female differs from the male in having two small subcontiguous tubercles on the middle of the head, the prothorax non-tuberculate, and with two transverse curved carinae not quite enclosing a somewhat elliptic space, the hind one of which is much more distant from the base than that of the male. The specimen he figured (figs. 6, *a* and *b*) as *septemtuberculatum* is quite evidently not that species, and probably was a slight female variety of *trituberculatum*.

BOLBOCERAS PONTIFERUM, Blackb.

A specimen from Western Australia in the National Museum agrees perfectly with the type in the tubercles and excavations of the prothorax, but has the cephalic horn much longer (about thrice as long as the distance between the eyes) and with its tip conspicuously forked.

BOLBOCERAS ARMIGERUM, MacL.

A specimen from Queensland, in the National Museum, apparently belongs to this species, but has the median tubercles of the pronotum slightly closer together and stouter than usual, with the cephalic horns very different, the median one being much longer than usual and the lateral ones somewhat shorter; the lower front angles of the prothorax are also much more acute. Fig. 43, pl. xxxiii., is of the normal form, 44 of the variety.

BOLBOCERAS VARIOLICOLLE, Lea, var. (?)

A specimen from Queensland (Maranoa) in the National Museum is somewhat smaller (15 mm.) than the type of *variolicolle*, and has the prothoracic margins much less conspicuously serrated, the ocular canthi smaller, with their outer angles rounded off, the middle and lateral areas of the clypeus confused together owing to the absence of internal boundary lines, the frontal elevation consisting of a longer and not semi-double horn, and the front face of the clypeus much less elevated. Judged by their heads alone, this specimen and the type of *variolicolle* would appear to belong to two species, but the four processes on the pronotum of each are so closely in agreement that, knowing but one specimen of each, and allowing for the very considerable variation that occurs on the heads of many species, it does not appear desirable to describe the Maranoa specimen as new. A figure (pl. xxxiii., fig. 45) of the front view of the clypeus is given for comparison with that of the type (Proc. Linn. Soc., N.S. Wales, 1915, pl. xlviii., fig. 2).

BOLBOCERAS INSIGNE, n. sp.

Pl. xxxiii., figs. 46 and 47.

♂. Bright castaneous. Under-surface densely clothed, lower portion of cephalic horn with a few straggling hairs.

Head with a long and suberect horn, its base and the clypeus with dense but rather shallow punctures; canthi concave; mandibles with a subtriangular extension near apex. *Prothorax* with a large medio-frontal excavation, curvilinearly deepened at each side, a moderately long, curved

horn on each side near the excavation, middle with a stout semi-double projection slightly overhanging the excavation; sublateral foveae rather large, sides with punctures as on front of head. *Scutellum* impunctate. *Elytra* with small punctures in striae, of these the thirteenth and fourteenth not conjoined towards the base. Front *tibiae* with five teeth, hind pair with two or three small and two wide carinae. Length, 22 mm.

♀. Head with a subconical elevation crowned with two small tubercles between eyes, frontal margin elevated into a subconical tubercle above each antenna; lateral areae with the front carinae curved round so as to become conjoined to the supra-antennal tubercles, instead of touching the front angles of the clypeus. *Prothorax* obliquely flattened in middle of apex, the slope crowned by a transverse bisinuate ridge, whose ends are directed towards the front angles; with two small, deep, but somewhat transverse, marginal foveae in front; with dense and coarse punctures connecting the sublateral foveae.

Hab.—Western Australia: Walkaway. Type, 1914; 863 in the Western Australian Museum.

The foveae on the front margin of the prothorax of the male are not deep and circular as on other members of Group 1, but they appear as deeper parts of the large excavation; on the female, however, they are deep and isolated, and as the hind tibiae have two or three small carinae, in addition to the two wide ones, there need be no hesitation in referring the species to Blackburn's Group 1. I think the prothorax should be regarded as having only three horns, as the median one, although feebly double at its apex, is supported on a single base, very different to the two conspicuous median horns of *tenax*, *armigerum*, and *quinque-corne*. This character alone will readily distinguish it from all the other males of its group. The female in general appearance is close to many others, but in Blackburn's table would be associated with *cornigerum*,⁽²⁾ from which it differs in the median semi-double elevation of head free from any carinae. On the male the cephalic horn is about as long as the head is wide across the canthi; on the female the lateral areae of the clypeus, although completely enclosed by carinae, have but two of these, instead of three.

(2) In that table *cornigerum* was separated from *hippopus* by punctures of the interstices, but evidently the word interstices was accidentally used for striae; all the specimens in the Museum are without punctures on the interstices, but are punctate-striate, whereas on *hippopus* they are striate only.

BOLBOCERAS QUINQUECORNE, n. sp.

Pl. xxxiii.; fig. 50.

♂. Castaneous, some parts darker than others. Under-surface densely clothed, lower portions of cephalic horn with straggling hairs.

Head with a rather long suberect horn, its lower two-thirds and the clypeus with dense but rather shallow punctures; carina on its lower front distinctly elevated in the middle; canthi feebly concave; mandibles notched towards apex. *Prothorax* with a wide, transverse, frontal excavation, with four subconical horns overhanging same, between same and base two rather large pear-shaped foveae; sublateral foveae fairly large; sides with dense punctures as on front of head, with larger shallow punctures irregularly distributed, and with minute ones scattered about; a shallow median line, but with conspicuous punctures on basal half. *Scutellum* impunctate. *Elytra* striate-punctate, thirteenth and fourteenth rows conjoined towards base. Front *tibiae* with five teeth, hind ones with two small irregular subbasal carinae in addition to two large ones. Length, 23 mm.

Hab.—Northern Territory: Tennant Creek (J. F. Field). Type, I. 3699.

Allied to *tenax* and *armigerum*, but head with a single elongated simple horn; from *tenax* also it differs in the two median horns of the prothorax being much closer together; this should distinguish it also from *froggatti*, which is stated to have the two median horns wider apart than in *tenax*: the clypeus is much as on *tenax*, and both mandibles are conspicuously sinuate, characters which should also be distinctive from *froggatti*. On the front margin of the prothorax there is a small fovea towards each side, but it is not deep as in Group 1; the hind tibiae might be regarded as somewhat similar to those of Group 1, but the clypeus is certainly as on the first subgroup of Group 2; the species, however, is so obviously allied to *tenax* and *armigerum* that it should be associated with them in any table.

BOLBOCERAS TRIFOVEICOLLE, n. sp.

Pl. xxxiii., figs. 48 and 49.

♂. Castaneous. Under-surface densely clothed.

Head with three conspicuous, but not very long, erect horns between antennae, the outer ones subconical, the median one truncated or semi-double at its tip; front portion of clypeus almost vertical and somewhat elevated in middle; with crowded punctures, except towards base, where they are small and sparse; canthi shallow; mandibles sinuous towards apex. *Prothorax* with a large fovea on each side in front,

each opening out to the front angle, but the two separated by a wide ridge, the ridge with two short, wide horns overhanging it, behind these a rather large fovea, a rather short subconical tubercle towards each side in line with the median ones; sublateral foveae irregular; sides with dense punctures, with small punctures and with rather large and fairly deep ones irregularly scattered about. *Scutellum* with small punctures. *Elytra* striate-punctate, thirteenth and fourteenth rows close together towards base, but not conjoined. Front *tibiae* with five teeth, hind ones with two transverse carinae, between the subapical one and the base a row of small tubercles on each side. Length, 16-18 mm.

♀. *Head* with two small tubercles on frontal elevation, carinae of clypeus strong, the frontal margin raised into an obtuse tubercle above each antenna. *Prothorax* with two small shallow marginal foveae at apex, the space immediately behind a line connecting same, smooth, almost vertical, and crowned by a somewhat curved carina, the larger punctures more numerous than on male, continued across the middle, and the middle ones connected by irregular rows with the marginal foveae.

Hab.—North-western Australia: Fortescue River (W. D. Dodd). Type, I. 3700. Marble Bar (Western Australian Museum). Co-type, 1914—831; South Australia (National Museum).

Allied to *armigerum*, but male with median horn of head semi-double, the median ones of prothorax also semi-double, closer together, with a deep fovea behind them, and a deep one on each side in front; the female, in general appearance, is close to the female of *tenax*, with which it would be associated in Blackburn's table, but differs in having the outer edge of each canthus on a level with the upper edge of the eye, not below it; there are also other slight differences. The elevated parts of the head and the tibial teeth are black. The prothorax is entirely without small foveae on the front margin; the two frontal foveae of the male are large, but so placed that when the prothorax is viewed from slightly behind they are quite invisible, each is of a size almost to contain the head if the canthi and tubercles were removed from same; the median fovea is much smaller although very conspicuous.

BOLBOCERAS HOPLOCEPHALUM, n. sp.

Pl. xxxiii., figs. 57 to 59.

♂. Dark castaneous. Under-surface densely clothed.

Head with two very conspicuous horns at base, concave between same, and a subtriangular ridge between antennae,

the ridge crowned with two subtriangular tubercles; front face of clypeus subvertical, with crowded and fairly large punctures, elsewhere sparsely or not at all punctate: canthi rather deeply concave; outlines of mandibles somewhat sinuous. *Prothorax* obliquely irregularly flattened and highly polished on apical half, at summit of slope with four remnants of a transverse ridge; with round distinct punctures irregularly scattered about, but towards the sides becoming subobsolete. *Scutellum* impunctate. *Elytra* conspicuously striated, with rather feeble punctures in the striae, thirteenth and fourteenth irregularly conjoined towards the base. Front *tibiae* with five teeth, hind ones with two transverse carinae. Length, 14-16 mm.

♀. *Head* with frons concave and frontal elevation absent, clypeal elevation with three notches, lateral areae much smaller than usual. *Prothorax* along middle almost evenly rounded from base to apex, except for a carina traversing the apical fourth, in front of same to head impunctate, except at the margin; punctures larger and more numerous than on male.

Hab.—Western Australia: Beverley (F. H. du Boulay). Type, I. 221.

The male differs from the male of *taurus* in having the horns between the eyes much longer than the ones in front, instead of much shorter, the front ones are also conjoined instead of widely separated, the apex of the prothorax is also not bifoveate. The horns at the base vary in length and direction, on some specimens, except for a slight curvature, they are almost erect, so that the space between their tips is about the same as that between their outer bases; on other specimens, however, they diverge so much that their tips are twice as distant as their outer bases. The sublateral foveae of the prothorax, although not very deep, are laterally extended, and are bounded in front and behind by distinct ridges. Blackburn considered the junctioning or otherwise of the thirteenth and fourteenth elytral striae near the base to be of specific importance, but on several specimens of this species they are irregularly conjoined on one side and free (although close together) on the other.

BOLBOCERAS CONTEXTUM, n. sp.

Pl. xxxiii., figs. 54 and 55.

♂. Castaneous, some projecting parts black. In parts densely pilose.

Head irregularly excavated and with scattered punctures: a transverse ridge between eyes, ending near each eye in an acute conical tubercle, each tubercle with a thin longitudinal ridge extending backwards to the base and frontwards to the

inner front corner of the ocular canthus; the latter with front edge gently incurved and outer front angle lightly rounded off; clypeal elevation in the form of an acute undulating ridge, with its sides tuberculate; front face of clypeus (middle area) almost vertical, asperate-punctate; left mandible evenly rounded and then obliquely truncate to apex. *Prothorax* with sides strongly rounded and finely (almost evenly) serrated; with irregularly distributed punctures, varying from sparse and minute to coarse and crowded, more crowded on the sides and larger across middle than elsewhere; with two subtriangular tubercles slightly nearer apex than base and almost directly posterior to the subocular tubercles, the two connected by a curved carina; with a rather deep and fairly large excavation from apex (where it is deepest) to just outside of each of the submedian tubercles; sublateral foveae rather large and irregular. *Elytra* rather lightly striate-punctate. Front *tibiae* with five teeth, hind *tibiae* bicarinate. Length, 12-13 mm.

♀. Differs in having the head more densely punctate, the ridge between the eyes more obtuse and not ending in tubercles, clypeal elevation slightly higher in the middle than at sides, front face of clypeus with larger and more regular punctures, frontal excavations of prothorax reduced to shallow depressions and the discal tubercles absent, but with the connecting ridge distinct and bisinuate.

Hab.—Northern Territory: Daly River (H. Wesselman). Type, I. 5768.

Belongs to the first subgroup of Blackburn's second group of the genus, although the male has two foveae close to the front margin of the pronotum (inconspicuous on the female, however), and in his table would be associated with *taurus*, from which the male differs in having the cephalic elevations much smaller, those in front closer together, the prothorax with two small processes, and the frontal excavations much smaller and shallower; the female differs from the female of *taurus* in having the transverse elevation between the eyes not tuberculate, the clypeal elevation different, and the pronotum with a semi-double median transverse ridge, and with very different punctures. In some respects it approaches some small females of *frontale* and *hoplocephalum*, but the elytral striation is less profound and the clypeal elevation is very different; the male, however, is very different to the males of those species.

BOLBOCERAS PENTAGONICUM, n. sp.

Pl. xxxiii., figs. 56 and 60.

Flavo-castaneous, tips of some projecting parts black or blackish. In places densely pilose.

Head, with dense and small asperate granules; with a short longitudinal hairy elevation inwards of each eye; ocular canthi acute at outer apex; clypeal elevation with a distinct subconical elevation on each side and a slightly larger one in middle, immediately behind the middle one two slightly smaller ones; middle area of clypeus with its dividing line distinct in middle, but obliterated towards sides; mandibles very prominent, each deeply and conspicuously notched at about one-third from apex. *Prothorax* with sides strongly rounded and very feebly serrated; surface irregularly granulate and punctate; at about basal third with an obtuse carina parallel with hind margin, but terminated before the irregular sublateral foveae, behind it (except in middle) a shallow depression; in front of carina a depression bounded in front by a feeble ridge, tipped by two small tubercles not quite touching each other, between tubercles and apex a fairly large excavation. *Elytra* striate-punctate, both punctures and striae more or less obliterated posteriorly. *Front tibiae* with six teeth, hind tibiae bicarinate. Length, 23 mm.

Hab.—Western Australia: Perth (F. H. du Boulay). Type (unique) in National Museum.

This and the two following species belong to the second subgroup of Blackburn's second group, a subgroup whose species have females quite as distinctive as their males, but (apart from dissection) I am unaware as to how the sex of a unique specimen may be determined, and I do not know the sex or sexes of these species. The five tubercles (three of which are close together) between the antennae and the short hairy ridges near the eyes readily distinguish the present species from any other known to me. The tubercles on the pronotum are smaller than those on the head, the medio-frontal excavation is slightly larger than an antennal club, its middle is longitudinally impressed, and the impression can be traced backwards between the small tubercles to near the subbasal carina: there are no round, sharply-defined punctures on the prothorax, the surface being mostly asperate-granulate and in places almost vermiculate.

BOLBOCERAS DACODERUM, n. sp.

Pl. xxxiii., fig. 51.

Castaneous, some projecting parts black. In places densely pilose.

Head rather widely flattened and with small punctures between eyes; clypeal elevation with three rather small subconical elevations of even height, but the middle one somewhat larger than the others; middle area of clypeus appearing as an almost vertical rugose front face; mandibles strongly

rectangularly notched at one-third from apex. *Prothorax* rather strongly emarginate in front, sides strongly rounded and very feebly serrated; with rather dense and moderately large, irregularly-distributed punctures, interspersed with numerous small ones, but along median third with small ones only; towards base with a feeble transverse carina, nearest (but not touching) the base in middle, and vanishing far from the sides; with two rather small, porrect, conical, subcontiguous tubercles in middle, slightly nearer base than apex, the space between them and subbasal carina gently depressed, between them and apex largely excavated; sublateral foveae moderately large. *Elytra* rather strongly punctate-striate, interstices with small punctures and in places finely rugose. Front *tibiae* with six teeth, hind *tibiae* bicarinate. Length, 14 mm.

Hab.—Western Australia. Type (unique) in National Museum, from C. French.

Nearer to *chelyum* than to any other species known to me, but the two median processes of pronotum closer together, the transverse carina less conspicuous, at its middle nearest to the base (instead of most distant from it there), cephalic elevations very different, and mandibles rectangularly notched.

BOLBOCERAS TRYMODERUM, n. sp.

Dark castaneous. *elytra* almost black, some projecting parts of head and legs black. In places densely pilose.

Head gently dilated near eyes and feebly depressed in middle; with rather small, irregularly-distributed punctures; ocular canthi acutely angular at outer apex; clypeal elevation lightly tuberculate on each side, in middle elevated into a conspicuous semi-double process, oblique on its posterior face, almost vertical on its lateral and front faces; margining lines of clypeal areas in places obliterated; mandibles rather lightly notched towards apex. *Prothorax* rather deeply emarginate in front, sides strongly rounded and lightly but unevenly serrated; with moderately large irregularly-distributed punctures, and some very small ones; with a conspicuous median carina terminating near each side slightly in advance of the sublateral fovea, its middle slightly nearer base than apex; in front of carina almost vertical, and with transverse, semi-double ridges, each about the width of the scutellum, and separated slightly more than same; in front of the space between them with a deep round fovea, a moderately distinct fovea on each side of middle of front margin. *Elytra* strongly striate-punctate, both striae and punctures becoming less defined posteriorly. Front *tibiae* with six teeth, hind *tibiae* bicarinate. Length, 13 mm.

Hab.—Western Australia: Lawlers (W. du Boulay). Type (unique) in National Museum.

In general appearance fairly close to *interruptum*, but prothorax without a medio-apical projection, each projection in front of the subbasal carina semi-double, and not with the appearance as of parts of an interrupted carina, and the elevations on the head very different. The semi-double tubercle on the head is slightly longer than the second tooth on the front tibiae.

LIPAROCRUS DILATATIFRONS, Blackb.

L. timidus, Arrow.

A specimen of *dilatatifrons* was sent to Mr. Arrow for his opinion, and in reply he wrote that it was identical with *timidus*; the former name has priority.

PARARHOPAEA.

In his table of the "True *Melolonthides*" (*ante*, 1911, pp. 187, 188) Blackburn distinguished this genus by "Labrum strongly directed forward, almost horizontal," as against "Labrum vertical or nearly so" of *Rhopaea* and *Pseudoholophylla*. The type of the only previously described species of *Pararhopaea* (*callabounensis*) is in the Museum, and its labrum appears to be quite vertical to the long axis of the body; in fact, it appears exactly on the same plane as the basal portion of the clypeus, and almost at right angles to the front elevation of that organ. In *Rhopaea* it is directed at right angles to a straight line continuing the base of the clypeus, and gently diverges from a line continuing its front elevation.

PARARHOPAEA GIGAS, n. sp.

♂. Bright castaneous, some narrow margining parts black or blackish. Densely clothed with long yellowish hair on sterna, parts of legs, junction of prothorax and elytra, hind margin of scutellum, and basal joint of antennae; upper-surface with very short, sparse, depressed, whitish setae.

Head with two feeble elevations between eyes; the punctures there dense, large, shallow, and reticulate, about base much smaller and sparser; clypeus with elevation high and bilobed, in middle of apex much less elevated than at sides; labrum widely and deeply notched, with numerous setiferous punctures. Antennae with first joint large and obtriangular, second small, third-tenth forming a curved flabellate club. Apical joint of palpi with a wide, shallow depression. *Prothorax* about twice as wide as long ($14 \times 7\frac{1}{2}$ mm.), sides crenulate and subangularly dilated near the

middle; with large shallow punctures, dense in front, irregularly distributed elsewhere; with a feeble and irregular median line. *Scutellum* with irregular punctures, hind margin rugose. *Elytra* three-fourths as wide as long (18×24 mm.), shoulders rounded, sides gently dilated to beyond the middle; with irregularly distributed and rather small punctures, some round and others transversely rugose; disc of each elytron with three extremely feeble costae, the third commencing in a shallow post-humeral depression. *Pygidium* acutely margined, tip obtusely bilobed, with numerous small punctures and in parts shagreened. *Legs* long; front tibiae acutely tridentate, hind tibiae with two unequal spurs, the inner one moderately acute and about as long as basal joint of tarsi, the outer one longer and wider, dilated from base to beyond the middle, and then feebly rounded to apex; claw-joint with a short bisetose onychium; claws long, with a strong acute tooth about middle and a rounded swelling at base. Length (σ , ♀), 34-39 mm.

♀ .. Differs in having prothorax smaller and narrower, elytra more dilated, abdomen considerably larger, pygidium more convex and much less acutely margined, club much smaller, legs shorter, spurs to hind tibiae wider and shorter, and hind tarsi considerably shorter.

Hab.—Western parts of South Australia: Ouldea (R. T. Maurice), Lake Arcoona (A. Loveday), Overland Railway, ten miles east of Golden Well (— Chandler, in National Museum). Type, I. 517.

The largest specimen in actual bulk is exceeded only by an unusually large specimen of *Lepidiota froggatti*, of all the Australian *Melolonthides* in the Museum, but its length is slightly less than that of *Lepidoderma waterhousei*. The club is composed of eight joints, instead of seven, as in *callabonnensis* and the following species, but in the allied genus, *Rhopaea*, the joints of the club vary in number from five to eight. On the male the first lamella of the club is about as long as the clypeus is wide, and is truncate at its tip, the second is rather abruptly bent backwards from where it passes the first and (as also the succeeding joints) is about one-third longer than it. On the female the lamellae of the club are only about the length of the basal tarsal joint, the first lamella is about two-thirds the length of the others, slightly longer than the joint itself, and acutely pointed. On the apical joint of the only female in the Museum there is a small swelling that from some directions causes the club to appear nine-jointed, but this is probably accidental. On the specimen in the National Museum there are a few long hairs near each front angle of the pronotum.

PARARHOPAEA RHIPIDOCERA, n. sp.

♂. More or less castaneous, some marginal parts narrowly black or blackish. Densely clothed with long yellowish hair on sterna and parts of legs, basal joint of antennae, latero-frontal and hind margins of prothorax, and hind margin of scutellum.

Head coarsely sculptured between eyes; clypeus with large, round, shallow punctures, its margining elevation high and very feebly bilobed; labrum moderately notched, with a few coarse punctures at sides. Antennae with first joint moderately large, second short, third slightly longer and wider, with a short projection near the inner apex, fourth-tenth forming a strongly-curved flabellate club. Apical joint of palpi with a long excavation. *Prothorax* strongly transverse, sides moderately rounded with the margins crenulated, apex incurved to middle; with moderately large, shallow punctures, dense in front, irregular elsewhere; with feeble remnants of a median line and with a shallow depression towards each side. *Elytra* not much wider than prothorax, sides almost parallel to near apex; with moderately coarse punctures, in places subvermiculate, and denser towards apex and sides than elsewhere; disc of each elytron with four costae, the inner ones more conspicuous than the outer ones. *Pygidium* with rather acute margins, tip feebly notched; with moderately dense punctures. *Legs* rather long; front tibiae strongly tridentate, hind tibiae with two unequal spurs, but the longer one not much wider than the shorter one: onychium small, but with two long setae, each claw with an acute tooth. Length, 18-24 mm.

Hab.—Western Australia: Mullewa (Miss J. F. May). Type, I. 4523.

Of the size and general appearance of *callabonnensis*, but head very different between eyes, prothorax longer, with different punctures, and without long discal hairs. The smaller specimens are rather more coarsely sculptured than the larger ones. The head between the eyes on most of the specimens appears irregularly biareolate, with the punctures crowded and coarse, on two of them the coarsely-punctured space appears instead to be elliptic in outline. The lamellae of the club are subequal in length and slightly longer than the four basal joints of the tarsi; they are usually closely folded together, but when separated have a beautiful fan-like appearance. The hairs at the apex of the scutellum are not on its upper-surface, and on several specimens are concealed (or abraded).

LEPIDIOTA PICTICOLLIS, n. sp.

Bright castaneous; head, all margins, and a median line on prothorax, scutellum, under-surface, pygidium, and legs black or blackish; antennae (club castaneous), palpi, and claws obscurely diluted with red. Clothed with seta-like white depressed scales, dense on head, all margins of prothorax, scutellum, and sides of abdomen, and not very dense elsewhere; sterna and base of abdomen with long, dense, whitish pubescence, and with some straggling hairs; legs with long hairs and white seta-like scales.

Head with crowded and moderately large punctures; clypeus conspicuously bilobed, with larger and sparser punctures than on the rest of head. Antennae with first joint almost as long as four following combined, second rather short and stout, third and fourth moderately long and subcylindrical, fifth of irregular shape, sixth and seventh very short and strongly transverse; club three-jointed, the lamellae nearly as long as the six preceding joints combined. *Prothorax* strongly transverse, sides finely margined and feebly crenulated, front without raised margin; with small and not very dense punctures, becoming crowded at sides and in front, with a shallow medio-frontal impression. *Scutellum* with rather dense punctures. *Elytra* at base very little wider than prothorax, sides feebly dilated to near apex; surface lightly rugose, and with small and not dense punctures; each elytron with four discal costae, the two inner ones moderately distinct and conjoined to form a small swelling at summit of apical slope, the two outer ones very feeble, with the fourth quite close to the margin. *Pygidium* rather acutely margined, with a vague median line, tip lightly notched; punctures crowded and rather small. *Legs* rather long; front tibiae strongly tridentate, middle tooth nearer the apical than the subbasal one; tarsi slightly longer than tibiae; claws each with a long and acute median tooth, and a small subtriangular basal one. Length, 36-38 mm.

Hab.—Northern Queensland: (H. J. Carter's No. 6), Stradbroke Island (H. Hacker, Queensland Museum's No. 307). Type, I. 4525.

In general appearance not at all close to any of the species named or identified by the late Rev. T. Blackburn, and at first glance apparently nearer to *Pararhopaea* and *Paralepidiota* than to *Lepidiota*, but the antennal club is rather small and composed of but three joints, hence in his table of the true *Melolonthides* it could only be referred to *Neolepidiota* or to *Lepidiota* (unless to a new genus). Referring it to *Lepidiota*, in his table of that genus it would

be referred to A, BB, but from the four species there associated (as, in fact, from all others of the genus) it may be readily distinguished by the bicoloured pronotum: on this the black (or, at least, very dark-brown) markings are so disposed that the castaneous parts form two large irregularly-rounded patches. In some lights some of the hairs on the front femora have a beautiful golden-rose gloss. The front tarsi are of the same proportionate length as those of *froggatti*.

The specimen from Mr. Carter (labelled by the late Rev. T. Blackburn "Not known to me") is considerably paler than the others, with the pygidium obscurely reddish: it is also much less densely clothed (but this is probably due to abrasion).

LEPIDIOTA DARWINI, Blackb.

The type of this species was a female, but both sexes were described by Blackburn. There are now before me nine females, two of which were compared and agreed with the type, and another is marked as a co-type. On all of them the propygidium and abdomen are very densely clothed with scales that are (either now or evidently once were) of a snowy whiteness; on three of them the pygidium is moderately clothed, but the scales are sparser and larger than on the adjacent parts; on the others, however, the pygidium is almost or entirely glabrous, and appears conspicuously black, in striking contrast to the snowy scales near it; it appears to be a trifle longer than wide, but by actual measurement is seen to be a trifle wider than long.

There are also six males before me, two bearing Blackburn's name labels and two others his number 2789 (in a note-book recorded as *darwinii*). At first glance these specimens look strikingly different to the females, and I am by no means satisfied that their identity is certain. They differ in being smaller, paler (the colour gradually becoming still paler posteriorly), prothorax more convex, with larger and sparser punctures, without a shining median line (this being distinct on all the females); elytra less regularly clothed and with three or four fairly well-defined (although not conspicuously elevated) glabrous lines on each (of these, on the females there are scarcely any traces, or none at all, although the type was said to "bear obscure indications of three or four wide, scarcely-convex costae"). The pygidium is more transverse than in the female (regularly clothed on all six), the abdomen is smaller, and the elytra are less dilated posteriorly, but these latter characters are certainly sexual.

LEPIDIOTA PERKINSI, Blackb.

Four co-types of this species are slightly smaller and the prothoracic punctures are smaller in proportion than on the males noted under *darwini*, but at most they represent a slight variety of the same. If the males so noted are really males of *darwini*, then *perkinsi* must rank as a variety only of that species.

LEPIDIOTA DELICATULA, Blackb.

L. suavior, Blackb.

In the late Rev. T. Blackburn's collection there was no label representing *delicatula*, as there nearly always was when an unique specimen had been removed from his collection; in consequence he appears to have entirely overlooked the species when tabulating the genus.⁽³⁾ The type is in the South Australian Museum, and was compared and agreed with the type (now in the British Museum) of *suavior*.

LEPIDIOTA SQUAMULATA, Waterh.

In commenting on the scales of this species (under the description of *leai*) Blackburn laid stress on the colour of the same. There are before me two specimens from his collection labelled as *squamulata*, two sent by Mr. Arrow as having been compared with the type, and some others. The species appears to be fairly common in North-western Australia. Some of the specimens have all the scales of a snowy or slightly waxen whiteness (probably the natural colour of living specimens), on others they are all more or less brownish, and on still others they vary from white to brown, but this is almost certainly due to discoloration by age, immersion in liquids, etc.

DIPHUCEPHALA.

In Blackburn's table of this genus (*ante*, 1906, pp. 268-272), in A, E, and EE, there are mistakes; evidently *ignota* was misplaced, and the word "elytra" was used instead of "prothorax"; the lines in question should have been:—

- E. Lateral margins of prothorax strongly dentate
in the middle *ignota*. MacI.
EE. Lateral margins of prothorax at most feebly
angular in the middle.

the line EE governing only *nitens* and *rufipes*, and not *ignota*.

For K (*aurolimbata*) the character of the clothing of the pygidium used is confined to the female, the depression behind the scutellum is extremely feeble, and practically useless; the species, however, is a very distinct one.

(3) *Ante*, 1912, p. 63.

For LL (*smaragdula*) "pygidium" was evidently a mistake for "scutellum"; the species in his collection, doubtfully identified as *smaragdula* has the scutellum non-foveate, but pygidium much as on *pulchella* (on p. 268 Burmeister was given as the author instead of Boisduval).

DIPHUCEPHALA PULCHELLA, Waterh.

D. azureipennis, MacI.

This species varies in length from 6 to 8 mm., and has an almost parallel range of variation in colour to that of *colaspoides*, from which species it may be readily distinguished by the much wider and less parallel-sided median groove of the prothorax. From examination of the type of *azureipennis* Blackburn considered that name to be synonymous, and such was my own impression from a similar examination.

DIPHUCEPHALA NITIDICOLLIS, MacI.

D. obscura, MacI.

This synonymy has been already noted by Blackburn, and when I examined the specimens standing under the name of *obscura* in the Macleay Museum they appeared to be simply dirty ones of *nitidicollis*.

DIPHUCEPHALA MINIMA, MacI.

The only specimen in the Museum that could be placed in BBB, of Blackburn's table, is a small female that agrees well with Macleay's description of *minima*, except that the front tibiae are bidentate (but the second tooth is very small) and that the colour is purplish-blue instead of green (a common variation in colour).

DIPHUCEPHALA HIRTIPENNIS, MacI.

DIPHUCEPHALA COERULEA, MacI.

DIPHUCEPHALA LATIPENNIS, MacI.

The types of these species were returned to the Queensland Museum by Macleay, and have perished.

DIPHUCEPHALA HIRTIPES, n. sp.

♂. Bright metallic-green, densely clothed parts more or less coppery; club of antennae, flanks of prosternum, hind tibiae (except at base), hind tarsi, and parts of the others, black or blackish; rest of the legs and of the antennae reddish. Head, pronotum (except a large medio-basal subquadrate space), flanks of sterna and hind coxae with dense depressed scales, more or less stramineous in colour, abdomen

with paler scales, but along middle with long stramineous hairs, becoming almost tufted at tip; pygidium densely squamose, metasternum with rather long pubescence or short hairs; legs with stramineous hairs, becoming much longer, blackish, and very conspicuous on the hind tibiae and tarsi.

Head with densely crowded punctures; clypeus with two conspicuous sutures, the space between about twice as wide as long, tips semi-upright, somewhat rounded, the notch semi-circular. *Prothorax* about as long as wide, sides lightly increasing in width from base to middle and then strongly diminishing to apex, which is about half the width of base; with a very feeble median line; punctures very dense, but more or less concealed, except on the glabrous portion, where they are very shallow, with a confluent-variolose appearance. *Scutellum* highly polished and impunctate. *Elytra* finely shagreened throughout, with irregular rows of small punctures. Front *tibiae* bidentate; three basal joints of front tarsi densely clothed on lower surface. Length, 9 mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type, 1. 5759.

In general appearance strikingly close to *sericea*, with which it would be associated in Blackburn's table, but apical half and sides of pronotum densely squamose and the rest glabrous, elytra glabrous and with much smaller punctures, and abdomen with very different clothing (the hairy part of the abdomen is completely free from scales). The ocular canthi have longer and stiffer clothing than usual; there is a feeble ridge along the middle of the pygidium.

DIPHUCEPHALA TARSALIS, n. sp.

♂. Bright metallic golden-green, antennae (club black) and legs (claws blackish) reddish. Moderately densely clothed with rather long, subdepressed, stramineous setae, becoming denser and paler on under-surface and pygidium, but the latter glabrous at apex.

Head flat and with crowded punctures between eyes; clypeus with tips elevated and obtusely triangular, the dividing notch very wide. *Prothorax* lightly transverse, sides lightly incurved between middle (where each is acutely angular) and base, with a rather deep median groove somewhat dilated at base, lateral sulci well defined but not traceable to middle, with rather large punctures (more crowded in the depressions than elsewhere), each with a single setiferous granule. *Scutellum* highly polished and impunctate. *Elytra* distinctly wider than prothorax; with large, deep, approximate punctures in irregular rows: fourth and

seventh interstices lightly elevated. *Pygidium* rather coarsely shagreened. Front *tibiae* acutely bidentate; front tarsi densely padded on under-surface, first joint somewhat triangular, second (excluding its supporting base) fully four times as wide as long, third somewhat smaller but of the same proportionate width, fourth irregularly triangular. Length, 6-6½ mm.

♀. Differs in having the tips of the clypeus much smaller and but feebly elevated, legs shorter, with front tarsi much narrower and not spongicse, and by the more convex abdomen.

Hab.—Queensland: Mount Tambourine (A. M. Lea); New South Wales: Comboyne (W. H. Muldoon). Type. I. 4487.

In Blackburn's table would be associated with *nitidicollis*, from which it differs in being considerably smaller, and by the remarkably wide front tarsi of the male; from small specimens of *rufipes* it differs in the very different clothing of upper-surface and different shapes of the inflated front tarsal joints of the male; in size it is about equal to *puberula*, but the sculpture and clothing are very different. The tips of the clypeus are obscurely diluted with red.

DIPHUCEPHALA PYGIDIALIS, n. sp.

♂. Bright metallic-green or coppery-green, two or three basal joints of antennae reddish, the others black, under-surface of clypeal tips black and shining, tarsi blue or purple, the claws black, tips of front tibiae reddish. With white, moderately-long setae or elongate scales, fairly dense on head (denser on tips of clypeus than elsewhere), moderately dense on sides, base, and along middle of pronotum (and a few scattered about elsewhere), and forming feeble lines on elytra: under-surface and legs with moderately-long white hair, forming a tuft on pygidium and becoming black on parts of tarsi.

Head shagreened and with crowded, partially concealed punctures; clypeus distinctly and evenly narrowed from base, the tips acutely elevated and subtriangular, their dividing notch almost U-shaped. *Prothorax* moderately transverse, but much longer than the apical width, which is about half that of the base, base bisinuate, but truncate at scutellum, sides rather strongly rounded, front angles rounded off, median line (except for its clothing) vaguely defined, lateral impressions rather small deep foveae; finely shagreened throughout and with small dense punctures at sides. *Scutellum* depressed in middle, shining, and very feebly shagreened. *Elytra* somewhat dilated in middle, a feeble

depression near base: with somewhat irregular rows of not very large punctures, shagreened throughout. *Pygidium* shagreened and with a vague median line. Front *tibiae* with an acute apical tooth only, three basal joints of front tarsi inflated and (as also the fourth) with dense white setae on under-surface. Length, 8-10½ mm.

♀. Differs in having the head smaller, sides of clypeus more strongly rounded, the projecting tips much smaller, abdomen more convex, legs shorter, with the front tarsi not dilated and not spongiose.

Hab.—Western Australia: (old collection), Cunderdin (Western Australian Museum), Mullewa (Miss J. F. May). Type, I. 5757.

In Blackburn's table would be associated with *furcata*, from which (as from all other Western Australian species) it is distinguished by the conspicuously narrowed clypeus of the male, and finely shagreened and curiously clothed pronotum. The male of *mastersi* has the sides of the clypeus more rounded, the prothorax with large shallow punctures on the sides, and the pygidium not tufted, with the clothing elsewhere different. On two of the specimens the pronotum is more conspicuously coppery than the other parts. The long white scales on the elytra of specimens in perfect condition form a row on each interstice, but a very slight amount of abrasion causes them to appear irregularly distributed, they give the elytra (to the naked eye) a curiously speckled appearance; on all the specimens the base of the prothorax is margined with scales; on two males the scales form three conspicuous longitudinal lines and two feeble ones, with a few scattered about irregularly; on another male they are irregular, but on the only female before me the longitudinally disposed scales are confined to a conspicuous median line and the margins (on the latter they are mixed with numerous long hairs), the disc between being quite glabrous. The pygidium is glabrous on the upper portion and sides, but with dense hairs at the tip, and these, mingling with those at the tip of the abdomen, give it a tufted appearance: it is without trace of a foveate impression in either sex.

DIPHUCEPHALA INSULARIS, n. sp.

♂. Bright metallic-green, or coppery-green, tarsi blue or purple, antennae, palpi, and under-surface of tips of clypeus black. Moderately clothed with stramineous depressed setae, on the elytra having a somewhat lineate appearance; denser and paler on the under-surface and pygidium, but the latter glabrous at tip.

Head shagreened, and with crowded, large, shallow punctures; clypeus with tips largely produced, rounded on their inner and almost straight on their outer sides, the dividing notch wide. *Prothorax* moderately transverse, base not much wider than apex, front angles acute, sides acutely angulate in middle, with a wide, simple, and rather shallow basal depression, suddenly narrowed towards apex, lateral depressions deep and vaguely traceable to median one; with rather dense, large, shallow, shagreened punctures, denser in depressions than elsewhere. *Scutellum* polished at base, shagreened elsewhere. *Elytra* shagreened throughout, and with more or less regular rows of moderately large punctures. Front *tibiae* with a rather light subapical tooth in addition to the apical one; front tarsi spongiose. Length, $5\frac{1}{2}$ -6 mm.

♀. Differs in having the clypeus more conspicuously divided into two parts by a transverse carina, the front part more polished, the tips shorter and much less elevated, abdomen more evenly convex, and legs shorter, with front tarsi thinner and not spongiose.

Hab.—Queensland: Stradbroke Island (Dr. A. Jefferis Turner, H. Hacker, and Queensland Museum's No. 313). Type, I. 4494.

In some respects close to the description of *rectipennis*, but smaller and sides of elytra no straighter than in *pulchella*; but Blackburn would probably have associated it with *spencei* in his table; from the species so identified by him it differs in being smaller, elytra finely shagreened as well as punctured, lateral armature of prothorax more conspicuous, and front tibiae with dentition less conspicuously (or not at all) reddish. Its size is about equal to that of *pygmaea*, but the medio-basal depression of the pronotum is not semi-double. The colour of the upper-surface of the individual is almost uniform (although the pronotum, owing to its punctures, has a slightly different shade to the naked eye), but nine (four males and five females) of the specimens are coppery-green and five (all males) are more or less bluish-green. The tip of the pygidium is shining in both sexes.

A female from New South Wales (Dorrigo, W. Heron), that appears to belong to the species, has the head and prothorax more conspicuously green than the elytra and other parts.

CUNDERDINIA, n. g.

Clypeus with side and front margins conspicuously elevated, the latter very feebly incurved to middle. Antennae composed of nine joints (three forming a club). Claws large,

each with a strong acute tooth commencing before the middle. Other characters much as in *Diphucephala*.

The only species known at first glance appears to be quite an ordinary *Diphucephala*, but the extra joint to the antennae and the very different claws and clypeus forbid its being referred to that genus.

CUNDERDINIA VARIABILIS, n. sp.

♂. Bright metallic-green, tibiae and tarsi purple, antennae black, two basal joints reddish, two apical joints of palpi black. Under-surface with dense white scales in places, and with long straggling white hair, the legs also with white hair, and the pygidium with hair and scales, a few white setae about apical parts of elytra, and moderately dense on clypeus, some straggling hairs at sides of prothorax.

Head with densely crowded punctures, becoming still more crowded on clypeus; clypeus about once and one half as wide as long, its suture with head straight, sides feebly rounded and increasing in height to apex, which is very feebly bilobed. Eyes with a small medio-frontal canthus. Antennae short, first joint moderately long, second subglobular, third and fourth each about the length of second, but much thinner, fifth transverse and of irregular shape, sixth smaller and still more transverse, lamellae of the club slightly shorter than the eye. *Prothorax* at base slightly wider than the median length, much wider than at apex, and very feebly bisinuate, front angles acute and produced, hind angles acute, each side at middle acutely produced, and inwards of produced part with a foveate impression, a feeble median line on basal half; with dense, round, sharply-defined punctures of moderate size, becoming smaller and more crowded on sides. *Scutellum* rather large, semicircular, convex, but with apex flat and narrowly margined; impunctate but feebly rugose. *Elytra* very little wider than prothorax, sides very feebly increasing in width to apex, where each is widely separately rounded; with crowded punctures of moderate or fairly large size, and many transversely confluent. *Pygidium* obtusely triangular and slightly longer than wide. *Legs* long; front tibiae with a feeble outer tooth near the apex, but the apical tooth long, curved, and acute; tarsi longer than tibiae, front ones with four basal joints densely padded with whitish setae on lower-surface, two basal joints rather wide, third narrower, fourth as long as third but narrower, fifth (with claws) almost as long as the rest combined. Length, $7\frac{1}{2}$ -8 mm.

♀. Differs in having the clypeus slightly less elevated in front, abdomen more convex, legs shorter, with the front tarsi not spongiose on the lower-surface.

Hab.—Western Australia: Cunderdin. Type, 8233 in Western Australian Museum; co-type, I. 5758, in South Australian Museum.

The colour as described for the type applies also to three other males, except that on one of them the head is somewhat purplish; one female is coppery-green, another is purplish-blue, and another male is purple; the two latter specimens in some lights appear to be of exactly the same shade of colour. There is a small point with two long setae between the claws, representing an onychium, but it is much less conspicuous than on *Diphucephala*.

PHYLLOTOCIDIUM PICTUM, n. sp.

Pl. xxxii., fig. 2.

♂. Head (labrum black), prothorax (margins narrowly flavous), and scutellum dark metallic-green, elytra flavous, suture, margins, base (narrowly), and apex purplish, under-surface and pygidium black, with a purplish gloss; antennae, palpi, and legs (tibiae more or less green) flavous. Under-surface and legs with rather long white or whitish hairs, a few similar hairs on sides of prothorax and of elytra.

Head with rather dense, well-defined punctures, flat between eyes; clypeus convex in middle, suture well defined, punctures smaller than on base of head; labrum about half the width of base of clypeus. *Prothorax* moderately transverse, all angles acute, sides somewhat dilated from apex to middle and gently incurved between same and base; punctures slightly larger and not quite so crowded as on head between eyes. *Scutellum* semicircularly triangular, punctures as on pronotum. *Elytra* no wider than prothorax at base, sides somewhat dilated to middle, apex truncate; with not very dense and irregularly-distributed punctures of small or moderate size; subsutural stria on each elytron distinct, the others rather feeble. *Pygidium* with punctures as on pronotum. Hind *coxae* as long as two basal segments of abdomen combined, hind femora stout, hind tarsi about as long as femora and tibiae combined, claws almost as long as their supporting joint; front tibiae acutely produced at apex, slightly longer than tarsi, middle tibiae slightly shorter than tarsi; four front tarsi each with two long white membranous appendages between the claws, these strongly curved and distinctly shorter than the hind ones. Length, 5.5½ mm.

Hab.—Western Australia: Cunderdin (Western Australian Museum, No. 8232). Type, I. 5763.

The remarkable appendages to the four front tarsi (probably absent from the female) are evidence that this species

should be referred to *Phyllotocidium* rather than to *Phyllotocus*, but from the only previously described species of that genus it differs in many respects; the appendages are conspicuously longer than the claws they are placed between, and are slightly longer and distinctly wider than the hind claws. On the type the four hind tibiae (except at the base) are of the same shade of green as the pronotum, and the front pair have a slight metallic gloss, but on another specimen the front tibiae are more conspicuously green, and that colour is slightly extended to all the tarsi.

EUCNEMIDAE. (4)

The *Eucnemidae* are represented by a fair number of species in Australia, although not one appears to occur in abundance, and most are extremely rare, although often widely distributed. Whilst the species are usually very variable in size, and but few have strikingly distinctive colours, the genera are fairly easy of identification by characters of the under-surface, antennae, and legs.

Sixteen species are recorded in Masters' Catalogue, but several were overlooked. The following references are necessary to bring the Catalogue up to date:—

TABLE OF GENERA.—Blackb., Proc. Roy. Soc. Vic., 1899, pp. 216, 217.

DISCAPTOTHORAX, Blackb., *l.c.*, p. 219; KOEBELEI, Blackb., *l.c.*, p. 220.

DYSCHARACHTHIS, Blackb., *l.c.*, p. 217; BREVIPENNIS, Blackb., *l.c.*, p. 219; Trans. Roy. Soc. S.Aus., 1901, p. 131.

DYSCOLOCERUS, Bonv., Mon., p. 729; Blackb., Trans. Roy. Soc. S.Aus., 1892, p. 55; HEROS, Blackb., *l.c.*, p. 56; CONCOLOR, Blackb., Proc. Roy. Soc. Vic., 1899, p. 225; VICTORIENSIS, Blackb., *l.c.*, p. 226; BASALIS, Lea, Proc. Linn. Soc. N.S. Wales, 1894, p. 596; 1898, p. 555.

DROMOEOLUS INTERIORIS, Blackb., Proc. Linn. Soc. N.S. Wales, 1891, p. 502.

DYSTRIGONISTHIS, Blackb., Proc. Roy. Soc. Vic., 1899, p. 221; PARADOXUS, Blackb., *l.c.*, p. 222.

ENTOMOPHTHALMUS, Bonv., Mon., p. 513; UNIFORMIS, Blackb., Proc. Roy. Soc. Vic., 1899, p. 224.

EUMENES, Bonv., Mon., p. 744; BAKEWELLI, Bonv., *l.c.*, p. 745, pl. 36, fig. 2.

FORNAX PARVULUS, Bonv., Mon., p. 346, pl. 16, fig. 1; COLORATUS, Blackb., Trans. Roy. Soc. S.Aus., 1895, p. 219.

(4) *Melasiinae*. Fleut.: Ann. Soc. Ent. Fr., 1901, p. 636.

GALBODEMA RUFICEPS, Bonv. In Masters' Catalogue (3044) in error as a distinct species, originally described as a variety of *MANNERHEIMI*, Cast.; Fleut., Ann. Mus. Civ. Gen., 1896, p. 587, records the variety from New Guinea, and it occurs also in Queensland and New South Wales.

HEMIOPSIDA, Macl. (*Lycaon*, Bonv.), Lea, Proc. Linn. Soc. N.S. Wales, 1895, p. 230; *NOVA*, Bonv. (*mastersi*, Macl.), *l.c.*, p. 230; *CONCOLOR*, Lea, *l.c.*, p. 595; *EXPULSA*, Bonv., Blackb., *l.c.*, 1891, p. 503⁽⁵⁾; *NEOLYCAON*, Blackb., Trans. Roy. Soc. S.Aus., 1900, p. 49; *ATRA*, Schwartz Deutsch. Ent. Zeit., 1902, p. 353.

HYPOCOELUS, Esch., Bonv., Mon., p. 694; *AUSTRALIS*, Fleut., Ann. Mus. Civ. Gen., 1896, p. 596.

MICRORHAGUS, Esch., Bonv., Mon., p. 524; *SUTURALIS*, Bonv., *l.c.*, p. 591, pl. 29, fig. 1; *CAIRNSENSIS*, Blackb., Proc. Roy. Soc. Vic., 1899, p. 222.

NEMATODES, Latr., Bonv., Mon., p. 644; *MAJOR*, Bonv., *l.c.*, p. 668, pl. 32, fig. 3; Fleut., Ann. Soc. Ent. Belge, 1897, p. 257; *Dromoeolus thoracicus*, Lea, Proc. Linn. Soc. N.S. Wales, 1894, p. 595; Blackb., Proc. Roy. Soc. Vic., 1899, p. 219.

TRIGONOPLEURUS RUGULOSUS, Bonv., *Dromoeolus nigricollis*, Lea, Proc. Linn. Soc. N.S. Wales, 1894, p. 593; Blackb., Proc. Roy. Soc. Vic., 1899, p. 219.

MICRORHAGUS.

The species of this genus of world-wide distribution vary to an extraordinary degree in the antennae (see plates 26-29 of Bonvouloir's Monograph); but the genus may be distinguished from all others in Australia (except *Entomophthalmus*) by the presence of rather deep grooves resulting from the prosternal sutures being deepened, parallel-sided (except that they are somewhat dilated posteriorly), and parallel with each other, in consequence the propleural triangles are replaced by parallelograms. From *Entomophthalmus* it is distinguished by the antennae, these having the third joint long, whereas on that genus the third joint is quite remarkably short and usually closely applied to the fourth, so that the antennae at first appear to be but ten-jointed.

MICRORHAGUS CAIRNSENSIS, Blackb.⁽⁶⁾

On this species the grooves marking the prosternal sutures are unusually wide, but not as deep as in the other

(5) The specimen commented upon by Blackburn as probably belonging to this species has disappeared from his collection.

(6) By a printer's error originally printed *cairnesensis*.

species in the Museum, and the space outside of each groove is neither a parallelogram nor a triangle, as it is rounded in front, parallel-sided for some distance, and then strongly obliquely narrowed. In general appearance it is strikingly unlike any other in the Museum, and to associate it with them at first appears absurd. The antennae of the female are somewhat like those of figures 3 and 5, of plate 28, in Bonvouloir's monograph, but the male has an additional ramus.

MICRORHAGUS VARIEGATUS, n. sp.

Black or blackish, in places obscurely diluted with red, tibiae and tarsi reddish, antennae dull reddish-brown. Irregularly clothed.

Head with crowded punctures, distinct at base, partially concealed elsewhere. Antennae moderately long, second joint very short, third somewhat longer than fourth and fifth combined, fourth to tenth slightly produced on one side at apex, eleventh distinctly longer than tenth. *Prothorax* strongly transverse, front angles rounded, sides elsewhere parallel, hind angles acutely produced and strongly carinated, front margin carinated, and on each side with a short spur directed towards but not reaching the carina on the hind angle, with a strong median carina about base, but terminated before middle; with crowded but comparatively small punctures. *Elytra* parallel-sided almost to apex; with crowded and moderately large punctures about base, becoming smaller elsewhere, tips with a few granules. *Prosternal sulci* deep, narrow, about half the width of the propleural parallelograms; these slightly dilated about base and fully twice as long as wide. Length, $3\frac{1}{2}$ mm.

Hab.—New South Wales: Illawarra (Blackburn's Collection). Type (unique), I. 5724.

A moderately robust species with beautiful clothing. The obscurely variegated parts of the derm are the basal angles of prothorax, base and suture of elytra, and part of the muzzle. The clothing gives the upper-surface a conspicuously variegated appearance, as it is dense and golden in places, and sparser, shorter, and blackish in others; the golden pubescence is denser on the basal half of the prothorax than elsewhere, and in the middle is directed towards the basal carina, on the rest of the base it is directed backwards; on the apical half of each elytron the golden pubescence is conspicuous on the suture, apex, and side, the inner portion having more black pubescence than elsewhere; on the under-surface the pubescence is short and rather ashen. Each elytron has a postmedian sutural stria, but except for these striation is absent; the surface as viewed from the side

appears to be slightly undulating, but there are no conspicuous depressions.

MICRORHAGUS SERRATICORNIS, n. sp.

Brownish-black, appendages of a dingy-red, tarsi paler. Moderately and almost uniformly clothed with short stramineous pubescence.

Head with crowded, partially-concealed punctures. Antennae not very long, second joint short, third dilated to apex, about as long as fourth and fifth combined, fourth lightly produced on one side at apex, fifth more strongly, sixth to tenth still more strongly produced (subpectinate), eleventh thin, longer than tenth. *Prothorax* transverse; with crowded asperate punctures; basal third with a narrow median carina. *Elytra* almost parallel-sided to near apex; base with crowded asperate punctures, but becoming smaller posteriorly; with vague remnants of striation, but becoming distinct on apical half near suture and on the tips. *Prosternal sulci* rather deep in front, becoming shallower and deeper behind, where the width is about equal to that of the propleural parallelograms, these about thrice as long as wide. Length, 3 mm.

Hab.—New South Wales: Tweed River (Blackburn's Collection). Type (unique), I. 5727.

A dingy species. The sides of the prothorax, basal angles, carinated front margin, and lateral spurs from same are almost exactly as in the preceding species.

MICRORHAGUS ATER, n. sp.

Deep-black, knees and tarsi reddish. Clothed with short, dark pubescence, becoming stramineous and somewhat longer at base of prothorax and of elytra, and on head.

Head with crowded, more or less concealed, punctures. Antennae much as in preceding species. *Prothorax* moderately transverse, parallel-sided, except for the rounded front angles, strongly convex, hind angles strongly produced and acutely carinated, with a short medio-basal carina, front margin finely carinated, and on each side with a short spur projecting backwards; with dense and small but not asperate punctures. *Elytra* with crowded asperate punctures on basal fourth and on tips, the intervening space with smaller but more clearly-defined ones; with feeble remnants of striation. *Prosternal sulci* rather deep, somewhat dilated posteriorly, where the width is about equal to that of the propleural parallelograms, these about thrice as long as wide. Length, $3\frac{3}{4}$ mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type (unique), I. 5726.

A jet-black species, very close in general appearance to *howensis*, but legs partly darker, antennae much more conspicuously serrated, and head with paler clothing. To see the blackish pubescence clearly the insect must be viewed from the sides.

MICRORHAGUS TENUICORNIS, n. sp.

Black; base (including hind angles) of prothorax, scutellum, basal third (or fourth) of elytra, and the suture more or less conspicuously diluted with red, legs bright-red, antennae piceous-brown, two basal joints, or second only, somewhat paler. Moderately clothed with stramineous pubescence about base of prothorax and of elytra, elsewhere with black or ashen pubescence.

Head with a fine transverse subbasal carina; with very dense punctures, clearly defined behind carina, partially concealed in front of same. Antennae long and thin, very feebly serrated; second joint very short, third almost as long as fourth and fifth combined, eleventh distinctly longer than tenth. *Prothorax* strongly transverse, front angles rounded, sides slightly dilated at posterior angles, these strongly produced and acutely carinated, with a short medio-basal carina, continued as a depressed median line to apex, front margin with a fine carina, which on each side has a short spur projecting obliquely backwards; with crowded punctures of moderate size. *Elytra* lightly but regularly decreasing in width posteriorly; with crowded and rather coarse asperate punctures about base, becoming smaller posteriorly; with a distinct sutural stria beyond the middle on each elytron, elsewhere with but feeble remnants of striation. *Prosternal sulci* deep, narrow, and parallel-sided almost throughout; propleural parallelograms about thrice as long as wide. Length, $2\frac{1}{2}$ - $3\frac{3}{4}$ mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea). Type, I. 5728.

There are four specimens under examination and they differ but little, *inter se*, except in size.

The species known to me may be tabulated as follows:—

Antennae flabellate	...	...	...	...	<i>cairnsensis</i>
Antennae not flabellate.					
Prothorax bright-red	...	...	...	...	<i>ruficollis</i>
Prothorax (base sometimes excepted) black or blackish.					
Third joint of antennae longer than fourth and fifth combined	...	...	...	...	<i>variegatus</i>

Third joint no longer than fourth and fifth combined, if as long.

Fifth to tenth joints of antennae strongly serrate (subramose).

Antennae black *ater*

Antennae reddish *serraticornis*

Antennae scarcely serrated.

Derm of elytra entirely black *howensis*

Base of elytra more or less diluted with red *tenuicornis*

ENTOMOPHTHALMUS DECIPIENS, n. sp.

Black; tip of prothorax, antennae, and legs (femora infuscated) reddish. Uniformly clothed with short ashen pubescence.

Head with dense partially-concealed punctures; with a short medio-basal carina. Antennae long, thin, and lightly serrated, second and third joints very short, fourth almost as long as fifth, fifth to tenth subequal in length, eleventh distinctly longer. *Prothorax* strongly transverse, quite parallel-sided except for the slightly rounded front angles, basal angles acute and acutely carinated, with a short medio-basal carina, front margin with a fine carina, each side of which has a short spur projecting obliquely backwards; with dense small punctures. *Elytra* feebly diminishing in width posteriorly; with crowded asperate punctures at base and on tips, becoming smaller and more clearly defined elsewhere, near suture and on tips with fairly well-defined striae, elsewhere with but feeble remnants of same. *Prosternal sulci* deep, narrow, and parallel-sided, except at extreme base; propleural parallelograms about four times as long as wide. Length, $2\frac{3}{4}$ mm.

Hab.—Northern Queensland (Blackburn's Collection). Type (unique), I. 5729.

In general appearance, except as to the antennae, very close to *Microrhagus serraticornis*. Bonvouloir's figure of *E. interruptus* (pl. xxv., fig. 9) will give a good general idea of the species. The antennae at first appear to be quite distinctly ten-jointed, but on close examination the supposed third joint is seen to be really two, the third being very short and closely applied to the base of the fourth; under a compound power the suture between them is seen to be oblique, and the third to be about one-fourth of the fourth and much shorter than the second (in this respect it seems to be similar to *loriai*, from New Guinea). The only other Australian species of the genus (*uniformis*) was described by Blackburn as "rufo-ferrugineous."

HEMIOPSIDA.

Macleay: Trans. Ent. Soc. N.S. Wales, 1872, p. 261; Lea: Proc. Linn. Soc. N.S. Wales, 1895, p. 230.

Lycaon, Bonvouloir: Ann. Soc. Ent. Fr., 1870, p. 718 (N. pr.).

Neolycaon, Blackb.: ante, 1900, p. 49.

The genus *Hemiopsida* was proposed by Macleay for a species, *mastersi*, which I have already recorded as a probable synonym of *Lycaon novus*. The genus itself was referred to the *Elateridae*, following *Dicteniophorus*, but without its affinities being noted. Previously the genus had been named *Lycaon* by Bonvouloir, but that name having been already in use, Blackburn (overlooking my previous note) proposed for it the name *Neolycaon*. In the genus the antennae of the male are considerably longer than those of the female, and the eleventh joint is conspicuously longer.

HEMIOPSIDA CONCOLOR, Lea (*Lycaon*).

This species was doubtfully referred to *Lycaon*, with the general outlines of which it is certainly in close agreement, but the sides of the prosternum are shallowly grooved (distinctly in front) for the partial reception (up to about the ninth joint) of the antennae, the grooves, however, are not of the deep nature and closed posteriorly as those of *Fornax* and other genera, and are not margined within, although the lateral margin bounding each is carinated. Probably a new genus will be eventually required for it, but the type (and only specimen I have seen) having lost the tips of both antennae and all the claw joints, it appears desirable not to propose such a genus at present.

HEMIOPSIDA KRAATZI, Bonv. (*Lycaon*).

Specimens of this species are readily distinguished from those of *nova* and *nigricans* (some specimens of which they closely resemble) by the very short second and third joints of antennae, the combined length of these being less than that of the first or fourth. The antennae usually have the basal joint blackish, but occasionally they are entirely pale; the abdomen is sometimes of a rather bright red, but is usually no paler than the rest of the under-surface. One male is entirely of a dingy-red, except for a narrow blackish border, where the prothorax, scutellum, and elytra meet. Two females evidently belong to the species, but they differ from the males in being longer and wider, elytra less narrowed posteriorly, antennae considerably shorter, the three apical joints much shorter and less cylindrical (the eleventh, however, is conspicuously longer than the tenth), the combined

length of the second and third joints is rather more than that of the fourth, but the third is conspicuously shorter than the fourth. The size ranges from $6\frac{1}{2}$ to $12\frac{1}{2}$ mm. The type was recorded as from New Holland. The specimens before me are from New South Wales (Dorrigo and Bellingen).

HEMIOPSIDA VENTRALIS, n. sp.

Castaneous; head, pronotum (a large discal patch excepted), part of sterna, and basal joint of antennae, black or blackish. Rather densely clothed with whitish pubescence.

Head with crowded punctures of moderate size; a subfoveate impression between antennary sockets; clypeus widely depressed in middle. Antennae extending to about one-fifth from apex of elytra, second joint very short, third to tenth moderately serrated, third slightly longer than first or fourth, fourth-tenth subequal in length, eleventh almost as long as ninth and tenth combined. *Prothorax* with sides obliquely and almost evenly increasing in width to base, with an irregular shining median line on basal half; with punctures much as on head. *Elytra* parallel-sided to beyond the middle; with rather small but dense and irregular punctures, becoming crowded about base; striation rather lightly impressed, but becoming deep posteriorly. *Abdomen* with a wide and deep impression on each side of middle. Length, $6\frac{1}{2}$ mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type (unique), I. 5744.

The depression on each side of the abdomen commences about the middle of the first segment, and terminates at the tip of the third, its inner wall is almost vertical; at first glance the depressions appear to be due to irregular contractions, but they are alike on both sides; they are wider than on *longicornis*, commence and end sooner, and are much less conspicuously clothed. The second joint of the antennae is paler than the following ones; the pale portion of the pronotum is almost circular in outline.

HEMIOPSIDA MEDIANA, n. sp.

Deep-black, tarsi obscurely reddish. Moderately clothed with short stramineous pubescence.

Head densely granulate-punctate, with a shallow depression between antennary sockets and another on clypeus. Antennae extending to about middle of elytra, second joint very short, third slightly shorter than first, and slightly longer than fourth, fourth-tenth subequal in length, eleventh distinctly longer. *Prothorax* rather strongly convex, sides gently rounded, hind angles acute and clasping shoulders,

median line well defined throughout; with dense but sharply-defined punctures, becoming crowded on sides. *Elytra* scarcely wider than extreme base of prothorax, parallel-sided to beyond the middle; with crowded punctures throughout, but somewhat larger about base than elsewhere; striation well defined, becoming deep about apex and sides. *Abdomen* with a feeble depression towards each side of each segment. Length, $6\frac{1}{2}$ mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea). Type, I. 5743.

A small black species, but readily distinguished from *nana* by the conspicuous median prothoracic line. The serrations of the antennae are very feeble. A specimen from the Blackall Ranges (H. Hacker's No. 897) differs from the type in having the elytra and part of the antennae obscurely diluted with red, and with the tarsi of a rather bright castaneous.

Table of species known to me:—

Prosternum with a shallow channel on each side, but acutely bounded outwardly	...	<i>concolor</i>
Prosternum not so channelled.		
Abdomen strongly longitudinally excavated on each side of middle.		
The excavations terminate on the third segment	... ..	<i>ventralis</i>
The excavations terminate on the fourth segment	... ..	<i>longicornis</i>
Abdomen not longitudinally excavated.		
Third joint of antennae much shorter than fourth	... ..	<i>kraatzii</i>
Third joint slightly longer than fourth, or at least almost as long.		
Prothorax with a distinct median line	...	<i>mediana</i>
Prothorax without such.		
Elytra black	... ..	<i>nana</i>
Elytra not black (7)	... ..	{ <i>nova</i> <i>nigricans</i>

DYSCOLOCERUS.

To this genus, proposed by Bonvouloir upon a single species from Sumatra, Blackburn has added three species and I have added one and know several others; but it is probable that all the Australian species will eventually be considered as belonging to a new genus.

DYSCOLOCERUS CONCOLOR, Blackb.

There are in the Museum three co-type males of this species. Blackburn described the sexes as differing in the apical segment of abdomen, that of the male being lightly

(7) On some large females of *nigricans* the elytra are almost black.

angulate towards the apex; but the margins of the apical segment of these males are exactly the same as on three females before me. The sexes, however, may be readily distinguished by the antennae; on the male the three apical joints are distinctly longer than the seven preceding combined, and the eleventh joint is slightly longer than the eighth, and much longer than the tenth; on the female the three apical joints are less cylindrical, shorter than the seven preceding combined, and the ninth and eleventh are of equal length, and not much longer than the tenth. The species occurs in New South Wales (Forest Reefs), as well as in Tasmania.

DYSCOLOCERUS FUSCUS, n. sp.

Of a uniform dingy castaneous-brown, legs somewhat paler. Densely clothed with rather short, stramineous pubescence.

Head evenly convex; with crowded punctures. Antennae with second joint about as long as fourth, third about as long as fourth and fifth combined, fourth-eighth equal in length and slightly longer than wide, ninth about as long as seventh and eighth combined, as long as eleventh, and slightly longer than tenth. *Prothorax* strongly rounded in front, then parallel-sided to base, median line distinct; punctures slightly larger than on head, crowded on middle, still more crowded on sides. *Elytra* parallel-sided to beyond the middle; with crowded punctures at base, elsewhere with somewhat smaller granulate punctures; striation well defined. Length, 7-8 mm.

Hab.—South Australia: Murray River (H. S. Cope). Type, I. 5746.

A compact species, with outlines much as those of *porosus* and *rubriventris*, and distinctly wider than *concolor*. On account of the ninth joint of antennae suddenly much longer than the eighth, and the comparatively wide prothorax, the species has been referred to *Dyscolocerus* rather than to *Hemiopsida*. In some lights the pubescence has a golden gloss. The two specimens in the Museum are probably females.

DYSCOLOCERUS AUREOPILOSUS, n. sp.

Of a uniform dingy castaneous-brown, legs and antennae somewhat paler. Densely clothed with golden pubescence.

Head with crowded punctures; gently depressed between antennary sockets. Antennae long and rather thin, second joint almost as long as fourth, third as long as fourth and fifth combined, fourth-eighth subequal, ninth-eleventh slightly longer than seven preceding joints combined, ninth about as long as three preceding joints combined, slightly longer than tenth, and slightly shorter than eleventh. *Prothorax*

rather strongly rounded in front, and then with sides feebly dilated to extreme base, median line fairly distinct on apical half, but not traceable to base; punctures much as on preceding species. *Elytra* parallel-sided to beyond the middle; punctures and striae much as on preceding species. Length, 8 mm.

Hab.—New South Wales: Dorrigo (H. J. Carter). Type (unique), I. 5752.

In general appearance strikingly close to the preceding species, but prothorax less transverse, more rounded in front, sides less parallel and with hind angles diverging outwards, median line less conspicuous in front, and not traceable to base. The antennae are strikingly different, but they are probably sexually variable in both; the type of the present species is probably a male.

As I do not know *heros* and *victoriensis*, they have been excluded from the following table, but the former would be associated with *basalis* and the latter with *concolor*.

Elytra partly black	<i>basalis</i>
Elytra entirely black.	
Abdomen conspicuously paler than sterna ...	<i>rubriventris</i>
Abdomen concolorous, or almost so, with sterna	<i>porosus</i>
Elytra nowhere black.	
Prothorax without median line	<i>concolor</i>
Prothorax with median line.	
Prothorax with basal half parallel-sided ...	<i>fuscus</i>
Prothorax with basal half diverging to extreme base	<i>aureopilosus</i>

NEMATODES, Latreille.

Fam. Nat., 1825, p. 248; Lacord., iv., p. 113; Bonv., Mon., p. 644.

NEMATODES MAJOR, Bonv.

Mon., p. 668, pl. xxxii., fig. 3.

Dromoeolus thoracicus, Lea.

The genus *Nematodes* was not recorded from Australia in Masters' Catalogue, and Bonvouloir described *major* as from Victoria, in the United States. This mistake has been already pointed out by Fleutiaux (Ann. Soc. Ent. Belge, 1897, p. 257), who records it from Melbourne. The late Rev. T. Blackburn has already noted that *Dromoeolus thoracicus* is a *Nematodes*, and I am now convinced that it is a pure synonym of *N. major*. The species varies in length from 6 to 10 mm. Two specimens, from Merimbula probably belong to the species; they differ from the others before me in being smaller (5-5½ mm.), much paler, and with the discal impressions of the pronotum scarcely traceable.

Hab.—New South Wales, Victoria, and Tasmania.

EUMENES BAKEWELLI, Bonv.

This species ranges from 11 to 14 mm. in length, and occurs in Tasmania as well as in Victoria.

DROMOEOLUS DIGNOSCENDUS, Bonv.

The description of this species is but little more than a comparison with *ferruginipes* from Waigiou, the only reference to colour being "*la couleur des tarsi est plus claire.*" The length (variable in all the species known to me) was given as 5 mm. There are four specimens before me from Tasmania (the type was from Melbourne), that possibly belong to the species; they are black, antennae (basal joint excepted) obscurely diluted with red, and tarsi and knees rather more conspicuously red (although not brightly so). The pubescence is rather dense and irregularly distributed. The second and fourth joints of antennae are short, subequal, and their combined length about equal to that of the third. Of the other black Australian species it is distinguished from *australasiae* by the non-carinated head and fourth joint of antennae much shorter than the third, and from *lugubris* by the non-carinated head and paler appendages.

The four Australian species of the genus may be tabulated as follows:—

Derm dull reddish-brown	...	...	...	...	<i>interioris</i>
Derm black.					
Head non-carinated	...	...	...	...	<i>dignoscendus</i> (?)
Head carinated.					
Third and fourth joints of antennae subequal					<i>australasiae</i>
Third joint much longer than fourth				...	<i>lugubris</i>

ARISUS.

The species of this genus in general appearance are much like those of *Fornax*, but are distinct therefrom by short oblique sulci on the metasternum; to see these clearly, however, it is necessary to force the legs aside. All the species have the head more or less conspicuously tricarinated in front, with the median carina sometimes continuous from base to apex; on some specimens the median carina is very feeble on the clypeus, so that then the elevations resemble a thin Y.

ARISUS DEPRESSUS, Bonv.

A specimen from New South Wales (Tamworth) probably belongs to this species, but it differs from the description in being somewhat smaller ($4\frac{1}{2}$ instead of 6 mm.); the carina on its head, from the junction of the oblique ones on the clypeus, is very conspicuous to the base. The sutural stria on each elytron is well defined throughout, and about the base the

others are fairly distinct, but they are very feeble or altogether wanting elsewhere. Of the striae Bonvouloir remarks:—"Elytris non striatis"; but again, "*sans traces de stries distinctes, sauf la juxta suturale.*" A specimen from South Australia (Monarto) is a little smaller ($5\frac{1}{2}$ mm.) than the type; in addition to size, it differs from the Tamworth one in having the carina on the basal part of the head much less distinct, although traceable, and the elytral striation rather more pronounced.

ARISUS CARINATICEPS, n. sp.

Black; suture, under-surface, antennae, and legs more or less obscurely reddish. Densely clothed with stramineous pubescence.

Head with a conspicuous median carina from base to apex, clypeus with an oblique carina on each side joining the median carina between the antennary sockets; punctures crowded and rather small. Antennae moderately long, second joint short, third slightly longer than fourth, fourth-tenth equal in length, but feebly decreasing in width, eleventh longer. *Prothorax* with sides rounded in front and then oblique to base; with dense and rather small but sharply-defined punctures, becoming crowded on sides; with a narrow, shining, continuous median line. *Elytra* feebly decreasing in width from near base; with dense granulate punctures about base, posteriorly becoming smaller, sparser, and less asperate; striation well defined, except about middle of each elytron. Hind *coxae* at sides about half as long as their greatest length; basal joint of hind tarsi about as long as the rest combined, third triangular and deeply bilobed. Length, $5\frac{1}{2}$ -6 mm.

Hab.—New South Wales: Dorrigo (W. Heron); Victoria: Benalla (R. Helms). Type, I. 5734.

Differs from *depressus* in having the derm black and prothorax with a shining median line. The metasternal sulci are partially concealed by the middle femora, but are conspicuous when these have been forced aside.

ARISUS MINUTUS, n. sp.

Bright castaneous. Densely clothed with short, stramineous pubescence.

Head with a strong median carina, but becoming rather feeble on clypeus, the latter with a thin oblique one on each side joining the median one between the antennary sockets; with dense and rather small, partially-concealed punctures. Antennae rather short, second joint short, third rather wide, distinctly longer than fourth, fourth-tenth subequal in length.

and rather strongly serrated, eleventh distinctly longer. *Prothorax* with sides rather strongly rounded in front, with a shining median carina on basal third; with small and rather dense punctures, becoming denser on sides. *Elytra* slightly diminishing in width from near base; with rather dense asperate punctures about base, much smaller and sparser elsewhere; striation well defined about suture and base, finer or wanting elsewhere. Length, 4 mm.

Hab.—New South Wales: Sydney (W. du Boulay). Type (unique), I. 5735.

The hind coxae are much as in the preceding species, but the tarsi are missing; the species differs from the description of *depressus* in being smaller (it is considerably smaller than any previously described species of the genus) and antennae not filiform but quite strongly serrated; the prothoracic punctures are also considerably finer than on a species I have, with some slight doubts, identified as *depressus*. The metasternal sulci are very short, oblique, and close to the leg, and to see them clearly the femora must be forced aside; each appears as the apex of a much wider and somewhat deeper depression on the flank.

FORNAX.

This genus is the most abundant in species of all the *Eucnemidae*, and the species at first glance are mostly strikingly alike in general appearance, but they may usually be readily distinguished by characters of the head and antennae. In Blackburn's table the genus is distinguished by "Basal joint of hind tarsi as long as all the other joints together"; this is true of most of the species before me, but on several of them the basal joint is either slightly or quite conspicuously shorter than the rest combined; these, however, may be distinguished from *Discaptothorax* by the considerably narrower latero-prosternal grooves.

FORNAX PARVULUS, Bonv.

There are five specimens of *Fornax* before me that differ from all the others in having the fourth and fifth joints of antennae subequal in length and exceptionally short, their combined length being equal or subequal to that of the sixth. I cannot satisfy myself, however, that they belong to but one species, although possibly they all belong to *parvulus*. The smallest specimen ($5\frac{1}{2}$ mm., similar in length to the type) is from Tasmania, and has the tip of the abdomen almost pointed (certainly not "*late rotundato*"), the fourth and fifth joints of antennae are strongly transverse, and their combined length is slightly less than that of the sixth, and the sixth to ninth joints are slightly dilated. A specimen

from Northern Queensland is of similar length, but is slightly wider, the fourth and fifth joints slightly longer (but still transverse), and together quite as long as the sixth; the tip of the abdomen could fairly be called widely rounded (possibly the tip is sexually variable). Two from New South Wales (Galston) are similar to the Tasmanian specimen, except that they are larger (6-8 mm.). A specimen from Victoria is still larger (9 mm.), with the fourth and fifth joints combined just perceptibly longer than the sixth. The species was recorded from Tasmania, but was omitted from Masters' Catalogue.

FORNAX SUTURALIS, n. sp.

Black; tarsi and apical half of antennae obscurely diluted with red. Clothed with short, depressed pubescence.

Head with crowded punctures; with a narrow carina connecting the antennary sockets and continued along same to eyes, a short longitudinal one in middle. Antennae short, third joint longer than fourth, fourth to tenth subequal in length and very feebly serrated, eleventh conspicuously thinner and longer than tenth. *Prothorax* with front angles rather strongly rounded, then parallel-sided to base; with crowded but rather small punctures; median line vaguely depressed in front, very distinct towards base, a shallow, transverse depression on each side at base, the derm between each depression and the median line distinctly elevated. *Elytra* with crowded subasperate punctures about base, becoming smaller and more sharply defined posteriorly; striation well defined throughout. *Hind coxae* at sides about half as long as their greatest length, this about equal to length of second abdominal segment; basal joint of hind tarsi as long as the rest combined. Length, $3\frac{1}{2}$ - $5\frac{1}{4}$ mm.

Hab.—New South Wales: (W. du Boulay); Dorriggo (W. Heron and H. J. Carter). Type, I. 5739.

The pubescence on the under-surface is uniformly short and pale, on the upper-surface it is pale on the head, basal third of prothorax, and basal sixth and suture of elytra; on the rest of the upper-surface the pubescence is black, but visible only from the sides or an oblique direction; on some specimens the pale sutural pubescence is confined to one interstice on each elytron, but on others the space so covered is dilated about the middle.

FORNAX PARVONIGER, n. sp.

Black, antennae and legs more or less obscurely diluted with red. Clothed with short, depressed pubescence, somewhat

ashen on head, at base of prothorax and of elytra, and on under-surface; darker elsewhere.

Head evenly convex; with small dense punctures, becoming crowded in front; inter-ocular carina rather feeble and interrupted in middle. Antennae rather thin, second joint slightly longer than fourth and decidedly shorter than third, fourth to tenth subequal and feebly serrated, eleventh almost as long as ninth and tenth combined. *Prothorax* rather strongly convex in front, front angles rounded, sides thence feebly increasing in width to base, median line shallow on basal third, scarcely traceable elsewhere; sides with small and moderately dense punctures, becoming smaller and sparser about middle. *Elytra* distinctly narrowed from base to apex; with crowded asperate punctures about base, becoming sparser and more sharply defined elsewhere; striation distinct about base and suture, rather feebly defined or absent elsewhere. Hind *coxae* strongly and evenly narrowed to sides, greatest length distinctly more than that of second abdominal segment; basal joint of hind tarsi as long as the rest combined. Length, $3\frac{1}{2}$ -4 mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type, I. 5740.

Close to *suturalis*, but head without longitudinal carina, inter-ocular carina slightly interrupted in middle, prothorax with much smaller punctures and median line more feeble, elytra less parallel-sided, with smaller punctures, and less conspicuous striation and hind coxae longer.

FORNAX CARINATIFRONS, n. sp.

Black, tarsi obscurely diluted with red. Clothed with short, depressed pubescence.

Head with crowded distinct punctures; inter-ocular carina well defined throughout. Antennae with second joint short, third slightly longer than fourth, fourth to tenth subequal, eleventh slightly longer. *Prothorax* with front angles rather strongly rounded, sides thence parallel-sided to base, median line well defined on basal half only; punctures towards margins as on head, somewhat larger about middle. *Elytra* feebly diminishing in width from near base; with crowded but sharply-defined punctures, larger and more crowded about base than elsewhere; striation well defined throughout. Hind *coxae* at sides scarcely one-half their greatest length, this slightly more than that of second abdominal segment: hind tarsi rather short, basal joint about as long as the rest combined, claw-joint very thin. Length, $3\frac{3}{4}$ - $5\frac{1}{2}$ mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type, I. 5742.

Readily distinguished from the preceding species by the coarser prothoracic punctures and more regular elytral striation; the inter-ocular carina is also not interrupted in middle. On the head, base of prothorax and of elytra, and on the under-surface the pubescence is paler than elsewhere, but from some directions, even on those parts, it appears to be black; on one specimen the pale pubescence on the elytra is confined to about the basal fifth, on the type it is extended to the basal fourth, and in addition is triangularly continued along the suture to the apical fifth. Most of the joints of the antennae, when viewed at right angles to their greatest width, appear to be subquadrate or briefly oblong.

FORNAX INTERRUPTUS, n. sp.

Bright castaneous, elytra somewhat darker. Uniformly clothed with stramineous pubescence.

Head strongly convex; with dense and rather small punctures, becoming crowded in front; inter-antennary carina interrupted in middle. Antennae moderately long, second joint short, third almost as long as fourth and fifth combined, fourth slightly shorter than fifth, and fifth than sixth, sixth-tenth subequal, eleventh distinctly longer. *Prothorax* with front angles rounded off, sides thence parallel-sided to base; with rather dense and small punctures, becoming crowded on sides. *Elytra* almost parallel-sided to beyond the middle; rather densely granulate-punctate about base, punctures smaller and sparser elsewhere; striation well defined throughout. Hind *coxae* narrowed almost to points at the sides, greatest length more than that of second abdominal segment; hind tarsi with basal joint about as long as the rest combined. Length, 5-5½ mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea), Brisbane (Dr. A. J. Turner); New South Wales: Dorrigo (W. Heron). Type, I. 5733.

Apparently close to *additus*, but fourth and fifth joints of antennae almost the same size and punctures evidently smaller. The fourth and fifth joints are each slightly shorter than the sixth, not strikingly so as on *parvulus*. There is a vague remnant of a median line close to the base of the prothorax, but not of a carina.

FORNAX ORTHODOXUS, n. sp.

Bright castaneous. Densely clothed with short stramineous pubescence.

Head strongly convex; with crowded and rather coarse punctures; inter-antennary carina widely interrupted in middle. Antennae moderately long, second joint short, third

almost as long as fourth and fifth combined, fourth slightly shorter than fifth, and fifth than sixth, sixth-eleventh subequal. *Prothorax* with front angles rounded, sides thence parallel to base; with crowded and not very large but subrugose punctures, becoming still more crowded on sides. *Elytra* feebly diminishing in width from near shoulders; rather densely granulate-punctate about base, punctures smaller and more clearly defined elsewhere; striation well defined throughout. Hind *coxae* narrowed almost to points at the sides, greatest length equal to that of apical segment of abdomen (this rather acutely pointed and with numerous small granules); basal joint of hind tarsi as long as the rest combined. Length, $4\frac{3}{4}$ mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type (unique), I. 5751.

A rather narrow species. The pronotum from some directions appears to be covered with small granules instead of punctures. The eleventh joint of antennae is just perceptibly longer than the tenth; in fact, from some directions it appears to be a trifle shorter.

FORNAX SUBOPACUS, n. sp.

Castaneous, head and prothorax without gloss, elytra and under-surface very feebly shining. Densely clothed with short, stramineous pubescence.

Head with crowded, partially-concealed punctures; inter-antennary carina not continued across middle. Antennae moderately long, first joint scarcely longer than third, second very short, third to tenth serrated, third about once and one-half the length of fourth, fourth to tenth subequal in length but gradually decreasing in width (eleventh missing). *Prothorax* with sides rounded in front; very densely and rugosely punctate; towards base with feeble remnant of a median line. *Elytra* parallel-sided to beyond the middle; with dense punctures throughout, but more rugose about base than elsewhere; striation well defined. Hind *coxae* strongly but curvilinearly decreasing in width to sides, greatest length scarcely more than that of second abdominal segment; hind tarsi with basal joint slightly shorter than the rest combined, fourth slightly narrower than third. Length, $4\frac{3}{4}$ mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type (unique), I. 5750.

The opaque head and prothorax (due principally to density of punctures) should alone readily distinguish the species from all other Australian ones of the genus. The tarsi are rather shorter and the lateral sulci of the prosternum rather wider than are usual in *Fornax*.

Table of species known to me:—

A. Derm black.	
a. Head with a short longitudinal carina.	
b. Third joint of antennae longer than fourth	<i>suturalis</i>
bb. Third joint shorter than fourth ...	<i>niger</i>
aa. Head not longitudinally carinate.	
c. Pronotum with minute, ill-defined punctures on disc ...	<i>parvoviger</i>
cc. Pronotum with larger, sharply-defined punctures ...	<i>curvatinifrons</i>
AA. Derm more or less castaneous.	
B. Fourth and fifth joints of antennae combined no longer than sixth, if as long	<i>parvulus</i>
BB. Fourth and fifth joints combined longer than sixth.	
C. Derm of pronotum opaque ...	<i>subopacus</i>
CC. Derm of pronotum shining.	
D. Eleventh joint of antennae just perceptibly longer than tenth ...	<i>orthodorus</i>
DD. Eleventh joint conspicuously longer than tenth.	
E. Widest part of prothorax not the extreme base.	
d. Prothorax with a feeble median line, but traceable throughout	<i>norfolcensis</i>
dd. Prothorax without such a line ...	<i>houcensis</i>
EE. Widest part of prothorax the extreme base.	
F. Elytra somewhat darker than prothorax ...	<i>interruptus</i>
FF. Elytra no darker than prothorax.	
G. Comparatively large and robust	<i>majorinus</i>
GG. Smaller and thinner.	
H. Basal joint of hind tarsi longer than the rest combined ...	<i>talayroides</i>
HH. Basal joint shorter than the rest combined ...	<i>castaneus</i>

DYSTRIGONISTHIS PARADOXUS, Blackb.

The type of this species was from North Queensland (probably from Cairns). There are four specimens from Cairns, nine from New South Wales (Forest Reefs), and three from South Australia (Mount Lofty and Adelaide), that appear to belong to the species. They vary in length from 5 to 10 mm. (the type was about 7 mm). Their elytral striae are peculiar; at the greatest width (just above the metasternum) each has eleven, of these the tenth vanishes level with the apex of the first abdominal segment, the ninth and eighth meet near the apex, and then, as one, deepens and continues till it joins the first, the second and third vanish at about one-fourth from the apex, the fifth and sixth become conjoined and terminate nearer the apex, and the fourth and seventh become conjoined and terminate still nearer the apex.

GALBOCERUS, n. g.

Head convex, antennary sockets large, not closely approximated; clypeus trisinate in front. *Antennae* flabellate. *Prothorax* moderately transverse. *Elytra* parallel-sided to beyond the middle. *Prosternum* with a wide and deep excavation on each side of base; propleural triangles each margined inwardly by a distinct carina, extending from front coxa to level with the middle of the eye, margined outwardly by the overhanging side of pronotum. *Metasternum* with two side pieces on each side, the outer one (the true episternum) rather thin and parallel-sided, the inner one hooked at base and narrowed till it disappears slightly before the apex. *Hind corae* long inwardly, strongly and evenly narrowed (almost to a point) outwardly; tarsi with fourth joint wide and strongly produced on lower-surface, claws each with a wide and conspicuous membranous appendix.

The type and only specimen in the Museum is, in general appearance, strikingly like *Microrhagus cairnsensis* on an enlarged scale, but it differs from *Microrhagus* in having propleural triangles instead of parallelograms, in the prosternal and metasternal sutures, tarsi, etc. *Galbodema* has wide and deep prosternal sulci. *Galba* has deep prosternal sulci and very different tarsi. No other Australian genus has been recorded as having species with flabellate antennae. The flanks of the pronotum are overhanging, so as to provide protection for the antennae when at rest (much as on *Phaenocerus clavicornis*), but as the propleural triangles are flat up to (although polished near) the overhanging margins the prosternum cannot be regarded as having lateral sulci (as in *Galba*, *Galbodema*, etc.); there is, however, a wide and deep excavation on each side at the base for the reception of the femur. The head of the type being closely applied to the breast, with the palpi partially concealing them, I have not been able to see if the hind edge of the mandibles is strongly sinuous, but believe it to be so. Regarding it as such, the genus, in Blackburn's table, would be associated with *Hypocoelus*, from which it differs in the antennae, tarsi, and metasternum. Regarding it as belonging to CC of that table, it would be associated with *Eumenes*, which has very different sides of prosternum, metasternum, antennae, and claws. I am dubious as to its correct position, but provisionally it may be placed near *Phaenocerus*.

GALBOCERUS PARALLELUS, n. sp.

Piceous-brown (almost black), antennae and legs of a dingy-red. Rather densely clothed with short, stramineous pubescence.

Head with densely crowded and rather shallow punctures, subgranulate in places. *Antennae* with first joint slightly longer than the space between antennary sockets, second very short and strongly transverse, third slightly longer than fourth and the length of fifth, the others to ninth (two apical joints missing) slightly increasing in length; ramus of third to ninth each about thrice the length of its supporting joint. *Prothorax* with sides rather strongly rounded in front, thence parallel-sided to base, with a feeble foveate impression on each side of middle; very densely punctate, towards the margins granulate-punctate. *Elytra* almost continuously parallel-sided with prothorax to beyond the middle; very densely granulate about base, granulate-punctate elsewhere; striation well defined throughout. Four hind *tarsi* with basal joint as long as the rest combined, basal joint of front tarsi as long as the next three combined. Length, 11 mm.

Hab.—North-western Australia: Port George IV. (J. R. B. Love). Type (unique), I. 5748.

There are very vague remnants of a median line on the prothorax, the discal foveae are feeble, but quite distinct from certain directions.

MALACODERMIDAE.

LAIUS PURPUREIPENNIS, n. sp.

♂. Purple; two basal joints of antennae flavous, rest of antennae, legs, and under-surface black. Densely and finely pubescent.

Head with dense and very minute punctures. *Antennae* rather long; first joint long and of irregular shape, second large and distorted, the following joints small. *Prothorax* distinctly transverse, front truncate, sides strongly rounded; punctures as on head. *Elytra* with sides feebly dilated to beyond the middle; scarcely visibly punctate. Front *femora* obliquely excavated in front; front *tibiae* dilated towards base, and obliquely sulcate on inner side near base. Length, 4-4½ mm.

♀. Differs in having two basal joints of antennae very different and the front femora and tibiae simple.

Hab.—Northern Territory: Darwin and Melville Island (G. F. Hill's No. 377). Type, I. 5687.

A remarkable species, and the only one at all close to *alleni*, from which it may be at once distinguished by the two basal joints of antennae; of these the first is dilated towards apex, with the apical portion wide and its summit oblique, from some directions appearing subangular near its outer apex; the second is slightly wider than long, joined to the first on one side, and to the third in the middle, its

upper-surface irregularly concave, with an opening near where it joins the first joint, but with the hollow space inside almost labyrinthic (although of large size it is so largely excavated that it appears little more than a thin irregular shell, convex on the lower-surface). On the female the first joint is somewhat shorter and simple, the second is simple, subparallel-sided, and about as long as the third and fourth combined. On *alleni* the first joint of the male is more irregular about apex, the second is much smaller, differently joined to the first and third, and its upper-surface totally unlike that of present species. The head, prothorax, and scutellum are of a different shade of purple to the elytra.

CURCULIONIDAE.

MANDALOTUS ABDOMINALIS, Lea.

On some specimens of this species in perfect condition the clothing is more conspicuously variegated than on the types, being of a rusty-brown, mottled with darker and paler spots, on each elytron there is usually a pale, conspicuous spot on the third interstice about the middle. On these specimens also the transverse arrangement of the prothoracic granules is fairly distinct, even before abrasion.

MANDALOTUS LATENS, Lea.

On fresh specimens of this species the clothing is more or less rusty- or muddy-brown, but rather conspicuously variegated with numerous small, irregularly disposed, pale spots.

MANDALOTUS INTEROCULARIS, Lea., var.

Two specimens (sexes) from the Glenelg River (Victoria, J. Rau) appear too close to *interocularis* to be described as new; but the abdominal carina of the male is more convex, not quite so close to the apex of the segment, the metasternum is slightly more concave, the elytra have feeble tubercles on the third, fifth, and seventh interstices about the apical slope, and the front tibiae are stouter towards and less curved about the apex. The female has the conspicuous inter-ocular tubercle as on the type female. In the 1914 table, regarding the elytra as tuberculate, the variety would be associated with *arciferus*, but on the male of that species the middle of the abdominal carina almost touches the apex of the segment.

Numerous specimens of the ordinary form have been taken by Mr. Secker at Lucindale.

MANDALOTUS TRANSVERSUS, Lea.

The types of this species are females, although they were described as probably being males; but Dr. Ferguson has

sent additional specimens from Dorriggo, one of which is a male. It differs from the female in having each of the middle coxae conspicuously armed with an upright, obtusely-pointed ridge; the basal segment of the abdomen is flat, with the base and sides of the intercoxal process conspicuously elevated, the front tibiae are stronger and more curved, and are conspicuously ciliated; the hind tibiae have their apical three-fifths largely scooped out on the inner side, so that when viewed from most directions each appears moderately curved on the outer side and very strongly on the inner, the scooped-out part commences so suddenly that, from some directions, it appears to start from a subbasal tooth; there are also two contiguous medio-basal foveae (small but conspicuous) on the prosternum. The clothing of the fresh specimens is more of a rusty-red than on the types, and the apical slope is rather less uneven. The female could still be assigned to the position given it in the 1914 table of the genus, but the male would be associated with *dentipes*, from which it differs in its different and more conspicuous dentition of middle coxae and very different hind tibiae; the hind tibiae of *dentipes* are very decidedly shorter, more regularly diminish in thickness from the base to the dilated apex, and are rather more strongly and evenly curved; that species also is without medio-basal foveae of the prosternum, and has conspicuous bristles on the metasternum and part of the abdomen.

MANDALOTUS ANGUSTUS, Lea.

On the middle coxae of the type male of this species there is a shining, slightly-elevated ridge; it is indistinct from some directions, but fairly distinct from others.

MANDALOTUS SQUAMIBUNDUS, Lea.

In the 1914 table of the genus this species was separated from *maculatus* (from which, however, it differs in many respects) by the absence of pale elytral spots. But Dr. Ferguson has sent eight fresh specimens from Bowen for examination, and nearly all of these have four rather feeble pale spots at the base of the elytra, and a few still more feeble ones scattered about elsewhere.

MANDALOTUS NODICOLLIS, Lea.

Some specimens of this species from Townsville are evidently in perfect condition, without the muddy crust that usually conceals the clothing. The clothing is very dense, of a light muddy-brown or grey, with numerous pale spots scattered about on the head, prothorax, elytra, and legs; on some specimens the spots have a silvery lustre, or even a

slightly greenish or golden one. The ocular lobes are unusually feeble and the emargination of the prosternum less pronounced than is usual in the genus.

MANDALOTUS TENUICORNIS, Lea.

Numerous specimens of this species have been taken at Robe by Messrs. Feuerheerdt and Secker. Their clothing varies from that of the types to a dingy greyish-white or slaty-white, more or less conspicuously mottled with sooty or sooty-brown. On the males the sides of the prothorax, near the base, are often distinctly wider than the base of the elytra.

MANDALOTUS HOPILOSTERNUS, n. sp.

♂. Dull reddish-brown, some parts more or less deeply infuscated. Densely clothed with muddy-brown scales, thickly interspersed with stout setae.

Rostrum short, median carina traceable through clothing. Scape rather long and not very stout; second joint of funicle distinctly longer than first. *Prothorax* rather strongly transverse, sides strongly and almost evenly rounded, median line narrow, deep, and almost continuous throughout; with large, subvermiculate, obtuse granules, readily traceable through clothing. *Elytra* somewhat angular, extreme base slightly narrower than widest part of prothorax; with several feeble subtubercular elevations about middle and base and on apical slope, but with a conspicuous tubercle on each side behind shoulder; with rows of large punctures not much smaller on apical slope than about base. *Prosternum* with a conspicuous keel between and in front of coxae. *Abdomen* with basal segment gently depressed in middle. Front *coxae* widely separated; front tibiae triangularly produced at inner apex, hind ones strongly narrowed before and strongly dilated at apex. Length, 6 mm.

Hab.—Victoria: Melbourne (J. W. Mellor). Type (unique), I. 5571.

The prosternum armed in front associates this species with *armipectus* in the latest table of the genus,⁽⁸⁾ but on that species (which is also a much smaller one) the armature is like a semi-double transverse ridge; on the present species it is an obtuse, but very conspicuous, longitudinal one. In general appearance its upper-surface is strikingly like that of *incisus*, *simulator*, and *niger*. The prothorax is almost entirely dark, the elytra are dark, but in places conspicuously diluted with red; but the colour of the derm is not to be relied upon in *Mandalotus*. On the elytra the setae are usually pale and confined to the elevated parts.

(8) *Ante*, 1914, p. 298.

MANDALOTUS LAMINIPECTUS, n. sp.

♂. Black, some parts obscurely diluted with red; antennae, tarsi, and tips of tibiae castaneous. Densely clothed with sooty-brown scales, more or less obscurely variegated with ashen ones, and with numerous stout setae scattered about.

Rostrum moderately long, wider at base than at apex, median carina narrow and distinct throughout. Scape moderately stout; two basal joints of funicle long, rather thin and subequal. *Prothorax* moderately transverse, sides rather strongly transverse, median line narrow and rather well defined; with numerous round granules, readily traceable through clothing. *Elytra* at widest slightly wider than prothorax; with rows of large, partially-concealed punctures; some of the interstices irregularly elevated (scarcely tuberculate), but with a fairly conspicuous swelling behind each shoulder. *Mesosternum* with a wide and very conspicuous inter-coxal process. Front *coxae* widely separated; femora very stout; tibiae comparatively short. Length (♂, ♀), 5-5½ mm.

♀. Differs in having the prothorax more transverse, elytra narrower at the base and wider across middle, mesosternum unarmed, abdomen gently convex, and legs somewhat shorter.

Hab.—Victoria: Glenelg River (J. Rau). Type, I. 5570.

The front coxae are very widely separated, and the separation is accentuated by the coxae themselves being scooped out or obliquely flattened, although this is less conspicuous on the female than on the male. The projection between the middle coxae of the male is very curious; at the base it is about as wide as long, but it obliquely dilates till at the apex it is almost twice as wide as long, with the apices conspicuously elevated and the space between them incurved, the whole process, except for the tips, being depressed below the coxae and concave. Regarding it as notched, it would (in the 1914 table of the genus) be associated with *incisus* and *laminatipes*, but the process in each of those species is very much smaller and of very different shape; their rostrum, front tibiae, etc., are also different. The hind femora of the male from some directions have a deceptive appearance as of being obtusely dentate. On the female the paler scales are almost white, and form feeble spots on the prothorax and elytra, and are rather dense at the base of the head.

MANDALOTUS WEDGENSIS, n. sp.

♂. Black, some parts obscurely diluted with red, antennae and tarsi castaneous. Densely clothed with slaty-grey

scales interspersed with numerous fine setae, the latter becoming long on tibiae.

Rostrum moderately long, median carina feeble. Antennae comparatively long and thin, first joint of funicle slightly longer and conspicuously stouter than second. *Prothorax* lightly transverse, sides moderately rounded, median line feebly impressed; with numerous feeble granules, the depressions about which appear vermiculate through the clothing. *Elytra* at base exactly the width of base of prothorax, but distinctly wider at basal fourth, thence gently rounded to apex; with regular rows of large, partially-concealed punctures; interstices not separately convex, but the fifth and seventh slightly wider than the others. Basal segment of *abdomen* with dense punctures, bounded externally by a distinctly curved carina, the other segments almost impunctate. Front *coxae* widely separated; hind tibiae acutely dentate at inner middle, inner apex acutely spined. Length, 4 mm.

Hab.—South Australia: Wedge Island (Captain S. A. White). Type, I. 5807.

The curvature of the abdominal carina is midway between that of the species DDe and *ec* of the 1914 table of the genus; but the species may be readily distinguished from the members of those groups, except *sydneyensis*, by the hind tibiae: *sydneyensis* has much longer and denser setae on the upper-surface, and clothing otherwise different, larger eyes and front coxae less widely separated. The gentle slope of the elytra is not at all interrupted by separate convexity of the interstices.

MANDALOTUS TIBIALIS, n. sp.

♂. Dark reddish-brown or blackish, some parts (and including the antennae and tarsi) more or less castaneous. Densely clothed with muddy-grey or ashen, obscurely-variegated scales; interspersed with numerous stout setae; front tibiae conspicuously but not densely ciliated.

Rostrum rather short, carina not traceable through clothing. Antennae moderately long and thin; second joint of funicle slightly longer and thinner than first. *Prothorax* moderately transverse, sides rather strongly rounded and widest across apical third, median line narrowly impressed; apparently without granules. *Elytra* distinctly wider than prothorax at base, and somewhat sinuous there, owing to the elevation of the third interstice on each, parallel-sided (except for a small post-humeral tubercle) to beyond the middle, somewhat irregular on and about apical slope; with rows of large, partially-concealed punctures, becoming smaller posteriorly. Front *coxae* rather widely separated, middle coxae

each armed with a strong, recurved, acute tooth; hind tibiae transversely multicarinate internally, front ones variable. Length, $3\frac{3}{4}$ -4 mm.

Hab.—New South Wales: Sydney (Old Collection), Blue Mountains, and Rydalmere (Dr. E. W. Ferguson); Mittagong, 2,000-2,500 feet (British Museum, from J. J. Walker). Type, I. 5581.

I cannot satisfy myself that the five specimens before me belong to more than one species; two of them have the elytra about the apical slope subtuberculate and decidedly rougher than on the others, and their front tibiae are apparently strikingly different. On the Sydney and Mittagong specimens the front tibiae have the apical three-fourths arched and granulate on the lower-surface, with the granulated portion suddenly terminating in a conspicuous tooth near the base (somewhat as on *arenaceus*), each of the front femora also has a notch in which the tooth can rest; on the other specimens the tibiae are also granulate, but at the position of the strong tooth there is a gentle swelling only, much as on many other species of the genus. The carinae of the hind tibiae are invisible from most directions. In the 1914 table of the genus, regarding the elytra as tuberculate, the species would be readily distinguished from all those referred to F. and also regarding them as non-tuberculate from all those referred to K, by the middle coxae, the remarkable teeth on these vary somewhat in size, but are conspicuous on all the specimens; they curve obliquely inwards over the intercoxal process; the armature of the middle coxae of *dentipes*, *transversus*, and *scaber* is very different. The prothorax on abrasion is seen to have the disc entirely without granules and to be covered with small dense punctures, mixed with a few of larger size; but the sides appear to have a few feeble elevations. The alternate interstices of elytra are not conspicuously elevated above their fellows, except that the third becomes almost tuberculate at base.

MANDALOTUS RAUI, n. sp.

♂. Black, some parts obscurely reddish; funicle and tarsi bright castaneous. Densely clothed with muddy-brown scales, interspersed with stout setae.

Rostrum moderately long, upper-surface with derm entirely concealed by clothing. Scape rather long; funicle thin, first joint thicker and slightly longer than second. *Prothorax* almost as long as wide, sides strongly and evenly rounded, median line feebly impressed; with numerous round granules, slightly traceable through clothing, but conspicuous on abrasion. *Elytra* subarcuate at base, which is wider than

prothorax, sides feebly dilated to beyond the middle: with rows of rather large, almost (or quite) concealed punctures; alternate interstices feebly elevated. Front *coxae* very widely separated, middle ones each with a shining oblique ridge. Length (σ , ♀), $3\frac{1}{2}$ -4 mm.

♀ . Differs in having the prothorax somewhat smaller, elytra somewhat wider, basal segment of abdomen convex in middle (instead of flat), and legs somewhat shorter, with simple *coxae*.

Hab.—South Australia: Adelaide, seven specimens from tussocks (J. Rau). Type, I. 5573.

In the 1914 table of the genus would be placed under *K* after *hh*, and from all the species there placed (except *angustus*) it differs in the middle *coxae*: from *angustus* it differs in being somewhat smaller, rather more robust, with the front *coxae* much more widely separated (almost twice the distance), and with the middle *coxae* more conspicuously carinated (the carina from some directions causes each coxa to appear armed with a subacute conical tubercle). The separation of the front *coxae* is rather more than in *rufimanus*, and the elytra, although non-tuberculate, are more uneven than on that species. The elytra (except perhaps at their base) could not fairly be regarded as tuberculate; their base is much less conspicuously trisinate (except for slight encroachments by the third interstices it could fairly be regarded as arcuate) than in *humeralis*. The clothing on all the specimens is very dingy and somewhat obscured by mud, but on two of them there are faint indications of pale spots on the prothorax, and still more faint indications on the elytra.

MANDALOTUS SUBHUMERALIS, n. sp.

σ . Blackish-brown, some parts obscurely reddish: antennae and tarsi castaneous. Densely clothed with muddy-brown slightly-variegated scales and with stout setae.

Rostrum short and stout, median carina traceable through clothing. Scape not very long: first joint of funicle stouter and slightly longer than second. *Prothorax* almost as long as wide, sides and base strongly rounded: with numerous granules conspicuously transversely arranged. *Elytra* sub-arcuate and wider than prothorax at base, with a conspicuous tubercular swelling on each side just beyond shoulder: with regular rows of large punctures, appearing very small through clothing; odd interstices very feebly elevated above the even ones. Two basal segments of *abdomen* feebly depressed in middle. *Legs* moderately stout: front *coxae* lightly but distinctly separated. Length, 3 mm.

Hab.—South Australia. Type (unique), I. 5583.

Close to *arcuatus*, with which it would be associated in the 1914 table of the genus, but differs in having the front tibiae less curved at apex, ciliation shorter and sparser, scape somewhat stouter, but in particular by the subhumeral prominence on each elytron. From *crawfordi* (also from South Australia) it is distinguished by its smaller size, narrower form, subhumeral prominences, and abdominal clothing concealing derm. It is about the size and at first glance somewhat the appearance of *Achopera lachrymosa* of the *Cryptorhynchides*. The paler markings consist of an interrupted stripe on each side of the prothorax and numerous feeble spots on the elytra. The clubs and two apical joints of each funicle are missing from the type.

MANDALOTUS INCONSPICUUS, n. sp.

♂. Dull reddish-brown, appendages paler. Densely clothed with light-brown or stramineous scales, somewhat variegated on upper-surface; with numerous stout setae scattered about.

Rostrum moderately long, sculpture of upper-surface entirely concealed. Scape not very long, somewhat inflated to apex; first joint of funicle distinctly longer and wider than second, the others all transverse. *Prothorax* distinctly transverse, sides rather strongly rounded; with dense, normally concealed punctures. *Elytra* elongate-elliptic, shoulders evenly rounded. *Abdomen* flat. *Legs* rather stout: front coxae touching. Length, $2-2\frac{1}{2}$ mm.

♀. Differs in being somewhat larger and wider, abdomen gently convex, and legs shorter.

Hab.—South Australia: Mount Lofty (S. H. Curnow). Type, I. 5587.

In the 1914 table of the genus this species would be associated with *maculatus* and *squamibundus*; from the former it is distinguished by its much denser clothing (entirely concealing the punctures of the upper-surface) and shorter and stouter antennae and legs. From *squamibundus* it is distinguished by its smaller size and slightly narrower form, somewhat shorter antennae and legs, front tibiae less acutely produced at apex, and sparser and less regular elytral setae. On the only female before me the elytral clothing is paler than on the two males and with numerous small chocolate-brown spots; on the males the spotting is very obscure. The setae are unusually stout, even on the legs and under-surface, and on the elytra are confined to a single row on each interstice; they are nearly all stramineous. Before

abrasion the elytra appear to be finely striated, but after abrasion rows of large punctures become evident.

LEPTOPS.

In the table of this genus in Ann. Soc. Ent. Belge, 1916, a line was unfortunately left out; this should have followed immediately after K on page 316, as follows:—"KK—Elytra with few tubercles, or if numerous then obtuse." This line governing all the species that followed.

With long series of many species of the genus one is inevitably forced to the conclusion that the majority are extremely variable. The sexual differences are usually very pronounced, nevertheless with many species the sexes vary towards each other, so that, from an external observation, it is often difficult to be sure of the sex of an individual. As a natural result, many synonyms have resulted, and the acquisition by the Museum of long series of many species taken by Mr. H. W. Brown in the Cue district has made it possible for some of these to be noted, and the plates given (with the exception of five figures all of the members of the group with the breast armed, and comprising most of the giants of the genus) will serve to illustrate the great variability in size and sculpture of some of them.

LEPTOPS DUPONTI, Boi.

var. *interioris*, Blackb.

var. *obsoletus*, Lea.

var. *carinatus*, Lea.

L. tribulus, in error.

Pl. xxxiv.

I previously ⁽⁹⁾ referred to *interioris* as a variety of *tribulus*, and named two other forms as varieties of the same species. But Mr. Arrow, from examination of the type, has pointed out that our identification of *tribulus* ⁽¹⁰⁾ was incorrect, and that the real *tribulus* is the Queensland species known as *ferus*.

In Masters' Catalogue, *echidna* and *duponti* are given as synonyms of *tribulus*, but it has been already ⁽¹¹⁾ pointed out (from examination of the type) that *echidna* is really the

(9) Ann. Soc. Ent. Belge, 1906, p. 327.

(10) The specimens in the late Rev. T. Blackburn's collection identified as *tribulus* were all of the species commonly supposed to be such, and the numerous references in Australian literature apparently all refer to the same species.

(11) *L.c.*, 331, by a printer's error recorded as from "N.," instead of "W." Australia.

species described by Blackburn as *planicollis*, and is a very distinct species. Till evidence to the contrary, therefore, is forthcoming, it is necessary to regard *duponti* as the name of the species hitherto commonly known as *tribulus*.

Plate xxxiv. will give a good idea of the variations in size and sculpture of the species; on fig. 74 there may be noticed a small projection in front of the front legs; this is typical of the group with armed breast, and is entirely absent from the real *tribulus* (*ferus*).

LEPTOPS FERUS, Pasc.

Pl. xxxix., figs. 156 to 158.

According to a specimen sent for examination by Mr. Arrow, and stated to agree with the type, this is the real *tribulus* of Fabricius. In the side figure (158) the *Catasarcus*-like post-humeral tubercle can scarcely be noted, but on fig. 157 it appears on the right side as a small prominence close to the leg.

LEPTOPS AREOLATUS, Blackb.

L. frenchi, Lea.

L. rudis, Lea.

Pl. xxxvii., figs. 111 to 122.

This species is one of the most variable of the genus. The type (fig. 112) is a rather large male, with the tubercles more obtuse than usual (approaching the female). The normal male (fig. 116) has two rows of more or less conical tubercles on each elytron, the row on the third interstice consisting of from three to seven, on the seventh from five to ten, with the two nearest the apex larger (usually very considerably so) than the others.

The female is usually much larger and much wider than the male, with the elytral punctures sharply defined and limited, but they are very variable; on the types of *frenchi* and *rudis* they are so strikingly different in general appearance that it seems difficult to regard the two specimens as belonging to but one species, but long series taken by Mr. Brown at Cue and Ankertell (including many taken *in cop.*) leave no doubt of this being the case. On the third interstice there are from two to five very obtuse tubercles, on some specimens tending to become subcarinate towards the base; on the seventh interstice the tubercles are much less conspicuous than on the male and are usually but two in number (on the latero-apical slope), and even these are not always distinctly conical; on an occasional specimen there are some feebly tuberculate spaces on the fifth interstice.

The type of *frenchi* (fig. 114) is a large female of the species, with the derm having a glazed appearance and the punctures more clearly outlined than on any other specimen under examination.

The type of *rudis* (fig. 111) is another large female, with the punctures less sharply defined, although still of large size, and more frequently confluent than usual. The base of the elytra is certainly different in shape to that of the type of *frenchi*, but the differences appear to be of an individual nature rather than specific.

LEPTOPS CLAVUS, Fab. (formerly HIPPORHINUS).

L. elegans, Lea.

Mr. Arrow informs me that *elegans* is a synonym of *clavus* (from comparison with the type of the latter). This being the case, it would appear that the subfamily *Hipporhinides* must be altogether removed from the lists of Australian beetles, as the only other species (*nigrospinosus*, No. 4940) standing under the subfamily in Masters' Catalogue belongs to the *Amycterides*.

LEPTOPS EBENINUS, Pasc.

L. crassicornis, Pasc.

Mr. Arrow sent for examination a specimen of *crassicornis* that appeared to represent a variety only of *ebeninus*, and on his attention being called to this, he wrote:—"The types of *ebeninus* and *crassicornis* differ little, and seem to me to be certainly conspecific." Later on he sent two specimens of the latter and three of the former, including a co-type of each with a label in Pascoe's writing. On *ebeninus* the tubercles are more conspicuously conical than they are on *crassicornis*, on whose elytra they are usually rounded and fewer in number; but they belong to one species and to a small group⁽¹²⁾ all of whose species are variable.

LEPTOPS RETUSUS, Pasc.

L. rostralis, Lea.

The description of *retusus* is quite misleading; the species is a very distinct one, and has been redescribed under the name of *rostralis*. On Mr. Arrow informing me of this, three questions as to the type were asked, as follows:—1. Is there a small tubercle⁽¹³⁾ on each side of the elytra just above the middle of the metasternum? 2. Is there a curious

(12) E, of the table in Ann. Soc. Ent. Belge, 1906, p. 315.

(13) C, of the table, *l.c.*

oblique swelling just in front of each eye? 3. Are the large elytral tubercles in the same positions as the specimen sent of *rostralis*? As affirmative answers were given to all, there is no doubt but that the names are synonymous.

LEPTOPS HYPOCRITUS, Pasc.

A co-type, sent for examination by Mr. Arrow, has clothing not at all green, the prothorax with a feeble median (not subbasal) carina, with two distinct transverse interrupted impressions; each elytra with three undulated (scarcely sub-tuberculate) ridges, of which one commences on the shoulder as an obtuse tubercle. The rostrum was described as "in medio canaliculato," the middle of that of the co-type seems to be narrowly impressed near the base, but near the apex it appears to be feebly carinated; regarding it as non-carinated it would in my table ⁽¹⁴⁾ be placed with *setosus*, with which it has scarcely anything in common; regarding it as carinated it would be placed in L, from all the species of which it is at once distinguished by having but the humeral tubercles. Probably, however, the male possesses characters that would cause it to be referred to a different section. Quite certainly it is not the species I incorrectly had as *hypocritus*, and so commented upon. ⁽¹⁵⁾

LEPTOPS ACUTISPINIS, Pasc.

A very distinct species, the original description, however, is not quite accurate (judging by a co-type on loan from the British Museum), as the rostrum is described as "robust, a slender somewhat abbreviated carina in front"; whereas it is comparatively thin and has a median carina traceable from the base almost to the apical triangle.

LEPTOPS POLYACANTHUS, Pasc.

A specimen from Cunnamulla appears to belong to this species, but has the elytral tubercles more acute than usual and the inter-ocular elevations very feeble instead of strongly pronounced.

LEPTOPS FASCICULATUS, Lea, var. PULCHRIPENNIS, n. var.

In the Cairns' district I obtained numerous specimens that appear to represent a variety of *fasciculatus*; they differ from the typical form in having the elytra non-fasciculate, or at least with the fascicles so reduced as to be little more

(14) Ann. Soc. Ent. Belge, 1906, p. 316.

(15) Ante, 1914, p. 296.

than feeble clusters of setae, and not supported by tubercular swellings. To the naked eye the elytra have a spotted appearance, but this is due to small patches of golden scales: the patches on some specimens are brilliantly golden, or greenish-golden, but on others are whitish with a slight golden gloss, and the amount of surface they cover varies considerably; the scales among which they are set are sooty-brown or black, but on the apical slope the scales are entirely dark. Many other parts of the body and appendages are also supplied with golden scales, but without the spotted appearance of the elytra. In some lights each elytral puncture appears to have a small shining granule on each side, but with greasy or abraded specimens these tend to disappear: on such specimens also the golden patches diminish in size and brilliance. The granules are occasionally traceable on the typical form, but not on *fasciatus*, which species the variety approaches in sculpture, although at present I cannot look upon that species as a variety of *fasciculatus*. Two other specimens have the scales on the upper-surface entirely golden, with a purplish tinge; on another the scales are white, with a golden or purplish tinge, becoming greenish on the sides.

LEPTOPS VACILLANS, Lea.

The types of this species were supposed to be from Queensland, but there were two specimens of the species in the Blackburn Collection labelled as from Western Australia.

LEPTOPS GLOBICOLLIS, Lea.

Numerous specimens from Dalby differ from the type of this species in being larger (up to 20 mm.) and with all the joints of the funicle longer than wide.

LEPTOPS CONTRARIUS, Blackb.

Pl. xxxviii., figs. 127 to 132.

In general appearance many specimens of this species are extremely close to the variety *carinatus* of *duponti*; but the suddenly terminated intermediate carinae of rostrum are distinctive. Like so many of the species with armed breast it is very variable in length (16 to 33 mm.) and as to the tubercles and carinae of the elytra. Mr. Brown has taken numerous specimens at Cue.

LEPTOPS COLOSSUS, Pasc.

Pl. xxxviii., figs. 135 to 137.

The white scales on this species with age tend to become of a muddy-brown, especially on specimens at all greasy.

LEPTOPS ECHIDNA, W. S. MacL.

Pl. xxxviii., figs. 138 to 140.

On the males of this species the first row of elytral tubercles is sometimes continued almost to the base, instead of degenerating into a carina there; in the females it is sometimes represented by two or three tubercles about the apical slope, and carinated thence to base. In both sexes the prothorax appears to be invariably largely scooped out on the disc (the middle usually but not always carinated) and the sides are conspicuously dilated from base to near apex. There are numerous specimens (ranging from 18 to 28 mm.) in the Museum from Eyre Sand Patch; but the species also ranges down to 11 mm.; see the following note.

LEPTOPS ACERBUS, Pasc.

Pl. xxxviii., figs. 133 and 134.

I have previously (Ann. Soc. Ent. Belge, 1906, p. 323) commented upon two forms, either of which might be *acerbus*; of these a specimen from Champion Bay is figured at 134 on plate xxxviii., and there are others from Beverley before me quite as small (down to 11 mm.). I am now quite satisfied that these are varieties of *echidna*; but the specimen without exact locality (fig. 133) is certainly not *echidna*.

LEPTOPS BIORDINATUS, Blackb.

Pl. xxxvi., figs. 95 to 104.

Superficially some males of this species strongly approach some males of *duponti*, but the suddenly terminated intermediate carinae of rostrum are at once distinctive. On an occasional specimen the third interstice on each elytron is carinated from base to about summit of apical slope, so that at first glance there is considerable resemblance to some specimens of *interioris*; on one specimen the second and fourth interstices appear like closely-set chains of small beads, the tubercles (or granules) being twice as numerous as on the typical form. A large specimen from Eucla is most certainly without a pair of conjoined tubercles⁽¹⁶⁾ on the suture near summit of apical slope, nevertheless there is at the position where these should be two minute flattened shining spaces that appear to represent remnants of tubercles.

Hab.—Port Pirie, Fowler and Murat Bays, Gawler Range, Wilmington.

(16) They are decidedly variable in size on the species.

LEPTOPS GRAVIS, Blackb.

Pl. xxxvi., figs. 105 to 110.

Except by the intermediate carinae of the rostrum gradually running into the head, instead of abruptly terminated, it is difficult to distinguish some females of this species from females of *biordinatus*. At Cooper Creek the natives' name for the species (according to the late Dr. J. G. Reuther) is "Warnkati."

LEPTOPS FRONTALIS, Blackb.

A specimen from Stapleton (Northern Territory) differs from the normal form of this species in having the humeral tubercle on each elytron reduced almost to the vanishing point.

LEPTOPS ELONGATUS, Lea.

Pl. xxxix., figs. 143 to 145.

Mr. Brown took numerous specimens (there are now nine before me) that I hesitate to regard as more than a variety of *elongatus*; they all differ in having the elytral tubercles more obtuse, on the apical slope they are more prominent than the others, but much less acute than those of the type; the median channel of the pronotum is much less conspicuous (not due solely to clothing), less parallel-sided, and on five of the specimens an obtuse ridge traverses its middle, so that on each of these it appears as two irregular foveae. The median and sublateral carinae of the rostrum are narrower than on the type, although the same in direction and bounded by similar grooves; the sixth joint of the funicle is transverse, and the other joints are slightly shorter than on the type. The clothing is more of a snowy whiteness (on the type the darker colour may be due to age), and on the abdomen, to the naked eye, appears to form three stripes, of which the median one is abbreviated, its place on the apical segment being taken by a subtriangular shining space; on each of the nine specimens this space is very distinct, although sparsely clothed, on the type it is scarcely traceable owing to being rather densely clothed, on the type also the larger scales are much more numerous on the under-surface generally. Seven of the specimens are from 14 to 16 mm. in length, the others are much larger, 21 to 23 mm.

LEPTOPS HERCULES, Lea.

Pl. xxxviii., figs. 141 and 142.

The male of this species differs from the female (the only sex described) in being much narrower, considerably smaller, prothorax slightly longer than wide, elytra with more acutely

conical tubercles on apical slope and punctures (except on sides) less well defined owing to the greater elevation of the interstices. The only male I have seen differs also in having the prothorax without a median carina and the scutellum not elevated, but these may be individual variations. It is evidently abraded, and has numerous minute denticulations showing on the front tibiae.

LEPTOPS HORRIDUS, Lea.

A specimen from the Coen River differs from the typical form of this species in being much smaller (11 mm.) and narrower, with the elytral tubercles conspicuously red and more acute; the *Catasarcus*-like tubercle on each side, moreover, is much smaller than usual, although traceable.

LEPTOPS LATICOLLIS, Lea.

Mr. G. F. Hill has taken numerous specimens of this species near Darwin, and sent six for examination. These all have the upper-surface apparently glabrous, but really sparsely clothed with short setae. The female differs from the male in having the elytra considerably wider than the prothorax, and with somewhat shorter legs.

LEPTOPS PARVICORNIS, Lea.

Plate xxxix., figs. 146 to 148.

Three specimens were photographed to show the differences in size and appearance of this rare species.

LEPTOPS CACOEZELUS, Lea.

Pl. xxxix., figs. 154 and 155.

A specimen from Tarcoola evidently belongs to this species, but has two small conjoined tubercles on the suture near the summit of the apical slope; on another remnants of tubercles are traceable; these specimens seem almost to connect the species with *parvicornis*.

LEPTOPS CRASSIROSTRIS, Lea.

A specimen from Dr. Ferguson, without locality label, may belong to this singular species; but it differs from the type in having the elytra less suddenly elevated at the base, with six small tubercles there, some obtuse but fairly large ones on the third and fifth interstices, and the punctures larger; on the prothorax also the granules are larger and better defined. From *phymatodis* it differs in the rostrum being much shorter, the elytral tubercles much smaller, and the base of elytra very different.

LEPTOPS AMPLIPENNIS, Lea.

Pl. xxxv., fig. 90.

The figure given is that of the only specimen I have seen of this species.

LEPTOPS MURICATUS, Pasc.

Pl. xxxv., figs. 91 and 92.

In the genus *Leptops* there are very few species that closely resemble each other and yet may be distinguished by strong differential characters; but there are two species before me either of which might be *muricatus* by the description, which strongly resemble each other and yet are certainly distinct. One of these is described as new under the name of *browni*, the other I previously tabulated as *muricatus*; the latter has a small but distinct *Catasarcus*-like tubercle on each elytron, the median carina of the rostrum is not abruptly terminated, but vanishes level with the parts about the base of the rostrum, and behind it there is a shallow groove, quite disconnected with the grooves on each side of the median carina, characters strongly at variance with *browni*; there is a feeble and very obtuse swelling in front of each front coxa, but this is very different to the conspicuous conical or sub-conical tubercle of *browni*. As it is a widely-distributed species, and occurs on the coast of Western Australia (the type was from Nicol Bay), it is much more likely to be the true *muricatus* than *browni*, which so far has only been taken in the dry interior by Mr. Brown.

LEPTOPS DUBOULAYI, Pasc.

Pl. xxxix., figs. 151 to 153.

A very fine species, varying in some directions towards *colossus*, and in others towards *hercules*, but quite distinct from both.

LEPTOPS HORNII, Blackb.

Two specimens from Derby may represent a variety of this species; they differ from the description and from some typical specimens in being much larger (15-18 mm.), with one pair only of conjoined tubercles on the suture, and that pair comparatively smaller, the median groove of the prothorax is also more pronounced and regular.

LEPTOPS PALMENSIS, Blackb.

In the 1906 table of the genus a co-type⁽¹⁷⁾ of this species would be associated with *horni*, from which it differs in the

(17) In the National Museum, Melbourne.

elytra having fewer tubercles, prothoracic sculpture less vermiculate, and scape stouter. The expression "tuberculis subobsoletis" and "the alternate elytral interstices are . . . obscurely knobby rather than distinctly tuberculate," would be deceiving if applied to the co-type (although, no doubt, correct for the type), as from it tubercles (except those on and about the apical slope) and knobs are entirely absent, the alternate interstices being feebly waved only.

LEPTOPS SCULPTUS, Blackb.

A single specimen from the North-west of South Australia (H. Basedow) probably belongs to this species: it differs, however, in being much smaller than the type (9 as against 14 lines),⁽¹⁸⁾ but in all other respects it agrees with the description.

LEPTOPS NITIDIVENTRIS, n. sp.

Pl. xxxv., figs. 79 to 86.

♂. Black. Densely clothed on legs and on depressed parts with small round whitish or greyish scales, closely applied to derm; antennae and legs with numerous setae.

Rostrum with intermediate carinae strongly elevated, dilated at base, and suddenly terminated there, median carina rather feeble and short; sublateral sulci narrow and deep in front, dilated to near base, and then narrowed; scrobes wide and deep at base, suddenly curved upwards so as to margin the eyes. Antennae not very long; first joint of funicle slightly longer than second, none of the others transverse. *Prothorax* rather long, and roughly sculptured. *Scutellum* very small. *Elytra* long, at widest not twice the width of prothorax; with subgeminat rows of large punctures, more or less interrupted by elevations; third, fifth, and seventh interstices with conspicuous rows of tubercles, commencing as obtuse elevations near the base and becoming larger and conical posteriorly. *Prosternum* with a conspicuous tubercle in front of each coxa, and a semi-double one in middle of base. *Abdomen* highly polished except at sides. *Legs* long; tibiae not denticulate. Length, excluding rostrum (♂, ♀), 25-35 mm.

♀. Differs in being larger, with much wider elytra (especially posteriorly), longitudinal elevations of prothorax less abrupt, tubercles more numerous and obtuse, and appendages shorter.

(18) Much less than the range of variation of the allied *contrarius*.

Hab.—Western Australia: Ankertell, Lake Austin, Cue (H. W. Brown). Type, I. 5386.

A very fine species, taken in abundance by Mr. Brown. In the 1906 ⁽¹⁹⁾ table of the genus it would be associated with *colossus*, but it is not at all close in appearance to that species, and in neither sex are the third and fifth interstices carinate. It is readily distinguished from *areolatus* by the abruptly terminated rostral carinae and highly-polished abdomen; the latter character is rare, but not unique in the genus. Owing to the rows of granules on the elytra and to the four linear elevations on the prothorax the clothing on some specimens has a vaguely striped appearance. The prothorax by actual measurement at its widest part is slightly wider than long, but to the naked eye it appears to be slightly longer than wide; it has a wide median excavation, bounded by vermiculate elevations, meeting in front but not behind; along the middle there is usually a narrow irregular carina, but this is sometimes split up into two parts, and occasionally is absent, the sides are bounded by irregular elevations consisting of subconjoined granules and tubercles, on each side of which are numerous small polished tubercles. The row of tubercles on the third interstice is much more conspicuous than the others (although the tubercle at the junction of the fifth and seventh rows is the largest of all), the seventh row commences with a small subconical one on the shoulder, the fifth commences some distance from the base. Seen directly from behind, the major portion of the apical slope is bounded by the six largest tubercles—two on the third interstices (approaching but not meeting on the suture), two at the junctions of the fifth and seventh interstices, and two where these connect with the third (near the apex); similar tubercles are on several of the other large species, but all of these have the abdomen very different. Between the middle coxae there are two processes, ⁽²⁰⁾ a short one attached to the metasternum and a longer sloping one forming part of the metasternum (these are quite readily seen to be separate processes, and although they do not appear to have been previously commented upon, are present, although not always exactly the same, on every species of the genus, although usually obscured by the clothing), the semi-double tubercle behind the front coxae is present on some others of the large species; the front of the prosternum is widely excavated for the reception of the base of the head.

(19) Ann. Soc. Ent. Belge, pp. 314-316.

(20) These do not come out very clearly on fig. 86.

LEPTOPS PILULIFER, n. sp.

Pl. xxxv., figs. 87 to 89 and 93 and 94.

Black. Depressed parts, antennae and legs densely clothed with whitish or ashen scales; in addition with stout setae.

Rostrum with three conspicuous carinae on upper-surface, gradually converging from the front to near the base, but not meeting there, owing to a deep inter-ocular fovea, which separates the intermediate ones (these evenly run out at the base), and in which the median one terminates; sublateral sulci rather narrow, open posteriorly; scrobes wide and deep, at base directed upwards along front margin of eyes. Antennae rather short; third to seventh joints of funicle transverse. *Prothorax* about as long as wide, roughly vermiculate-tuberculate, with a rather narrow median groove. Scutellum very small. *Elytra* elongate-ovate, at widest (about the middle) fully twice as wide as prothorax; with rather large and irregular, but not very deep, punctures; suture with two small conjoined tubercles near summit of apical slope, and remnants of others before same; third, fifth, and seventh interstices with numerous tubercles, the others sometimes with tubercles (but smaller ones). *Prosternum* distinctly armed. *Legs* moderately long; tibiae feebly denticulate. Length, 28-30 mm.

Hab.—Western Australia: Mullewa (Miss J. F. May and W. D. Dodd), Yalgoo (H. W. Brown). Type, I. 5388.

In the 1906 table of the genus would be associated with *gravis*, but the elytral tubercles are different; a few of them (on the apical slope) are subconical, the others are all rounded (knob-like), and these, together with short connecting intervals, give the elytra an appearance as of being supplied with strings of beads—fairly large round ones, alternated with thinner cylindrical ones; the second, fourth, and sixth interstices are usually supplied with small tubercles or granules, but on some specimens appear simply as slightly-waved lines. The setae on the appendages are fairly dense, on the elytra they change to true scales, fairly thickly scattered about on the elevated parts, and a few amongst the ordinary scales; on the prothorax they are rather narrower. The median groove on the prothorax is more conspicuous on some specimens than on others, but this is due partly to clothing; along its middle there is usually a carina or remnants of same. The six specimens before me appear to be all females; two others (figs. 93 and 94) differ in having somewhat wider elytra, with more numerous tubercles, approaching some females of the preceding species, but the abdomen is roughly punctured and not highly polished.

LEPTOPS BROWNI, n. sp.

Pl. xxxvii., figs. 123 to 126.

♂. Black. Densely clothed on the depressed parts and on the appendages with soft white scales; upper-surface in addition with some larger scales scattered about; appendages (especially the tibiae and tarsi) rather densely setose.

Rostrum rather long; median carina very conspicuous, at base terminating in a large inter-ocular fovea; intermediate carinae rather narrow, somewhat dilated at base, but not suddenly terminated there; sublateral sulci narrow, open posteriorly; scrobes deep in front, rather shallow behind, where at base they are directed upwards to margin the eyes. *Prothorax* elongate, sides but feebly dilated in middle, roughly vermiculate, the middle with a conspicuous groove. *Elytra* elongate, at base not much wider than prothorax, but fully twice as wide about the middle; with large but frequently interrupted punctures; with numerous small conical or sub-conical tubercles, becoming larger and more acute on and about the apical slope. *Prosternum* with a distinct subconical tubercle on each side in front, and a semi-double one in middle of base. *Legs* rather long, tibiae with denticulations scarcely traceable through clothing. Length (♂, ♀), 21-33 mm.

♀. Differs in being larger, with much wider elytra; tubercles more numerous and obtuse, and legs somewhat shorter.

Hab.—Western Australia: Cue and Lake Austin (H. W. Brown). Type, I. 5387.

One of the finest species of the genus, and taken in fair numbers by Mr. Brown. In the 1906 table of the genus would be associated with *gravis*, with which, however, it has little in common. All the specimens differ from those previously (and, I believe, correctly) identified by me as *muri-catus*, and which they strongly resemble in many respects, in having the median carina of the rostrum almost abruptly terminated, and beyond it a deep and fairly long groove (the termination of the groove on each side of the carina); the breast is always distinctly armed, and there is no *Catasarcus*-like tubercle or spine on each elytron, just above the middle of the metasternal episternum; they all have also a conspicuous median channel on the pronotum: this is rather narrow and parallel-sided on some specimens, but on others is somewhat dilated posteriorly, on the latter it is usually supplied with a median carina; it is densely clothed with snowy scales, and towards each side there is another but less distinct line of scales, in consequence the surface appears to be divided into four longitudinal vermiculate spaces—two wide median

ones and two considerably narrower lateral ones; on the female it usually appears to be divided into six longitudinal spaces. To the naked eye the extreme length of the prothorax appears to be considerably more than its extreme width, but their measurements are exactly the same. The suture has always two conjoined conical tubercles near summit of apical slope, but they vary considerably in size; there are usually also numerous smaller tubercles or granules on the suture towards the base; the tubercles are larger on the third, fifth, and seventh interstices than on the others, but on the basal half are small, although sometimes acute; about the summit of the apical slope, however, they are decidedly larger and very acute; on the second, fourth, and sixth interstices the tubercles are sometimes numerous and conical or subconical, but on many specimens they appear as rounded knobs, or as slight undulations; the eighth and ninth interstices are also sometimes supplied with a few small tubercles on the basal half. As with *nitidiventris*, the major portion of the apical slope is bounded by six of the largest tubercles on the elytra, but, in addition, on this species there are the sutural ones, and sometimes two smaller ones adjacent to them on the slope itself.

LEPTOPS NITIDICOLLIS, n. sp.

Pl. xxxix., figs. 149 and 150.

Black. Clothed with light-brown scales and stiff setae.

Head with inter-ocular fovea very small. *Rostrum* stout, sculpture less deeply impressed than usual. *Antennae* rather short. *Prothorax* moderately transverse, comparatively smooth and shining, with a conspicuous median line; towards the sides vermiculately impressed, with small scattered punctures. *Elytra* subovate, with irregular subgeminat rows of punctures, suture with two small conjoined tubercles near summit of apical slope; third, fifth, and seventh interstices carinate and then tuberculate. *Prosternum* obtusely armed in front. *Abdomen* highly polished. *Legs* moderately long; tibiae not visibly denticulate. Length, 22-24 mm.

Hab.—Western Australia: (Blackburn's Collection), Killerberrin (C. French). Type, I. 5501.

There are three specimens, apparently females, before me. Their elytra are exactly as on many specimens of *interioris*, but the prothorax is very different, being (except for certain impressed lines) smooth, shining, and without granules or tubercles. The pectoral armature is obtuse, but the species is so obviously a member of the group with the breast armed that it should certainly be placed in that group; regarding it as such, it would, in the 1906 table, be associated

with *tribulus* (as there identified), but really *duponti*, from which and from all its varieties it is readily distinguished by the highly-polished abdomen and very different prothorax, the rostral sculpture also is different. Regarding the breast as unarmed, it would be associated with *horni*, with which it has scarcely anything in common. The clothing is irregularly distributed, the scales being very dense on the scutellum, elytra, base of head, antennae, and legs; the setae are dense on the apical slope of elytra, muzzle, antennae, and legs, and sparse elsewhere; the prothorax is fairly densely clothed about the base, but sparsely elsewhere, and such setae as are present do not project upwards, but are almost buried in the derm, in consequence the upper-surface has a softly-polished appearance, strikingly at variance with most species of the genus; the abdomen is highly polished and with but few setae. The inter-ocular fovea appears to be little more than a puncture of moderate size. The median carina of the rostrum appears as a wide obtuse elevation, scarcely separated from the intermediate ones (these being practically absent); the sublateral sulci are fairly deep, subcrescentic in shape, and closed at both ends; the scrobes are wide and shallow posteriorly. From above the second joint of funicle appears to be slightly longer than the first, but from the side it is seen to be slightly shorter. Some of the elytral punctures are quite round, but the majority are separated by very irregular zig-zag or vermiculate lines. The carina on the third interstice is continued to beyond the middle, and is then broken up into from two to four small tubercles; on the fifth interstice the carina on two specimens is shorter and posteriorly broken up into feeble tubercles, but on one specimen it is continued as a feeble regular elevation till it vanishes; on the seventh interstice the carina is short and posteriorly is represented by from ten to twelve small tubercles; all the tubercles are small, but the most conspicuous ones are those on and about the apical slope.

LEPTOPS INSULARIS, n. sp.

Black. Densely clothed with pale scales and setae.

Head with inter-ocular fovea narrow and rather deep, but almost concealed before abrasion. Rostrum not very long; median carina narrow and acutely elevated, the intermediate ones rather less acutely elevated; sublateral sulci rather narrow, somewhat dilated, and open posteriorly. Antennae moderately thin; second joint of funicle somewhat longer than the first, none of the others transverse. *Prothorax* lightly transverse, sides evenly rounded, surface vermiculate-rugose. *Elytra* briefly subovate, at widest fully

twice the width of prothorax; with geminate rows of large punctures, appearing much smaller through clothing; third, fifth, and seventh interstices gently elevated, the third at base dilated and produced on to base of prothorax. *Legs* rather long; tibiae lightly denticulate. Length, 11-14 mm.

Hab.—North-western Australia: Baudin Island (British Museum and Blackburn's Collection, from J. J. Walker), De Freycinet and Condillac Islands (British Museum). Type, I. 5652.

A non-tuberculate species that in the 1906 table of the genus would be associated with *regularis*, from which it differs in the comparatively much wider and very differently clothed and punctured elytra, etc. In some respects it seemed to agree with the description of *Onesorus obesus*, but it differs very considerably from a specimen of that species sent by Mr. Arrow for examination. Structurally it is close to *hirsutus*, but the clothing is very different. The scales are small and round, and on the head, prothorax, under-surface, and legs are white (on some specimens snowy-white, but with a faint silvery gloss); the pronotum appears to have three vague dark stripes, but this is due to the scales there being sparser than elsewhere; on the elytra the clothing is stramineous, the setae are dense on the appendages, moderately dense on the head and prothorax, and again dense on the elytra, where they are rather stouter than elsewhere, but do not project upwards, being curved over with their tips almost touching the scales, or actually concealed by them. The second joint of the funicle, even from the side, is seen to be distinctly longer than the first. The clothing of the prothorax partially conceals the sculpture, so that it appears through the scales to be supplied with numerous small granules; but on abrasion very few of these are seen to be isolated; on abrasion also a small medio-frontal depression (scarcely traceable before) becomes distinct. The female is larger and wider than the male, with somewhat shorter legs.

LEPTOPS VARIEGATUS, n. sp.

Black. Very densely clothed with soft round scales and with numerous setae.

Rostrum unusually short, with a narrow median groove; scrobes rather narrow and deep, posteriorly directed below eyes. Scape short and stout, dilated to apex; first joint of funicle distinctly longer than second, none of the others transverse. *Prothorax* subcylindrical, sides feebly rounded, surface vermiculate-rugose. *Elytra* suddenly much wider than prothorax, almost parallel-sided to near apex; with regular rows of partially-concealed punctures; interstices

regularly elevated, but the even ones slightly wider than the odd ones. *Legs* not very long; denticulations of tibiae scarcely traceable through clothing. Length, 13 mm.

Hab.—Western Australia: Cue (H. W. Brown). Type (unique), I. 5655.

A non-tuberculate species, with very short rostrum and curious elytral bristles; it would be placed in A in the 1906 table of the genus, but it is not at all close to any species of that group. On the scutellum, under-surface, and legs the scales are whitish and usually with a faint golden gloss; on the upper-surface they are mostly fawn-coloured or light-brown; on the head there are two smoky spots at the base; on the elytra there are some small, irregularly-distributed spots of jet-black scales, on the sides there are some white scales, and on each elytron two oblong snowy spots about the middle, on the third and fifth interstices. On the elytra the setae are at almost right angles to the derm, long, stiff, and coloured the same as the scales amongst which they are set; on the head and prothorax the scales are much shorter. The space on each side of the rostrum, between the scrobe and the median groove, is narrow at the antenna and very much wider at the base, and has a fairly conspicuous oblique groove; this, however, is not the sublateral sulcus, which is very indistinct and between it and the scrobe. The type being unique and in perfect condition it was not abraded to make sure of the finer sculpture; on close examination the majority of scales on the elytra present an appearance as of grains of maize on a cob, the white scales are of similar size, but the black ones are slightly smaller and resemble jet-black beads.

LEPTOPS INERMIS, n. sp.

Black, some parts obscurely brownish. Densely clothed with soft round scales and with numerous setae.

Head with a narrow inter-ocular fovea. Eyes rather more convex than usual. Rostrum not very long, sides rather strongly incurved to middle. Antennae comparatively long and thin; second joint of funicle distinctly longer than first. *Prothorax* lightly transverse, sides moderately rounded, median line somewhat obscure; about middle granulate-punctate, towards sides vermiculate. *Elytra* cordate-ovate, greatest width almost twice that of prothorax; with geminate rows of large, regular punctures; third, fifth, and seventh interstices, and the suture posteriorly, gently elevated. *Legs* rather long; front tibiae conspicuously denticulate, the others less noticeably so. Length, 9-10 mm.

Hab.—Northern Territory: Batchelor (G. F. Hill). Type, I. 5651.

Belongs to A of the 1906 table of the genus. The scales are really very different to those of *glaucus*, but apart from these it differs from that species in being smaller, rostrum somewhat shorter, scrobes very different, alternate interstices of elytra less conspicuously elevated, and punctures, etc., different. Its general appearance is somewhat like that of *orthodorus* or *fraterculus*, but the elytra are completely devoid of tubercles. On one specimen the legs and elytra are obscurely diluted with red, on the other they are almost or quite black. The scales vary on the two specimens, on one being almost entirely of various shades of pale golden-green; on the other, on the upper-surface, most of the scales are pale stramineous-brown, but on its under-surface and legs many of its scales are more or less golden-green or golden. The setae are long and thin on the muzzle, legs, and under-surface, rather sparse and stout on the prothorax, and fairly stout but not conspicuous on the elytra, where they are fairly numerous on the even and sparse on the odd interstices. The sculpture of the upper-surface of the rostrum is almost concealed by the clothing; a narrow median carina is distinct, but between this and the scrobes the surface appears to be irregularly punctate or granulate and without any conspicuous ridges or grooves; the scrobes are very shallow posteriorly, dilated there, and almost touch the lower-half of the eyes.

LEPTOPS SUTURALIS, n. sp.

Black. Very densely clothed with pale-ashen scales, interspersed with numerous stout but not very conspicuous setae.

Head with an obtuse swelling near each eye; inter-ocular fovea long and deep. Rostrum short and stout, median carina conspicuous from inter-ocular fovea to apical plate; sublateral sulci short, deep, and closed by the obtuse swellings on head; scrobes deep and sinuous, turned upwards alongside of eyes. Antennae short and stout; first joint of funicle about as long as second and third combined, second to seventh all distinctly transverse. *Prothorax* almost as long as wide; surface roughly vermiculate, with an interrupted median groove. *Elytra* elliptic-ovate, base truncate; with rows of large, partially-concealed punctures, regular only on sides; suture, third, fifth, and seventh interstices tuberculate. Length, 12-15 mm.

Hab.—Western Australia: Cue (H. W. Brown); Northern Territory: Barrow Creek (F. R. W. Scott). Type, I. 5536.

Regarding the head as tuberculate, this species, in the 1906 table of the genus, would be associated with *concariceps*,

but the rostrum is very different; regarding the head as non-tuberculate, it would be associated with *horni*, also with the rostrum very different. The elytra are much like those of *musimon*, but on that species the cephalic tubercles are much larger and curved, and the intermediate carinae, sublateral sulci, and scrobes are all very different. On each elytron there are some small post-median tubercles on the suture (varying in number from two to five), the larger of which are about the summit of the apical slope; on the third and fifth interstices the tubercles commence at the extreme base (but the basal ones are small); on the seventh they commence near, but not at, the base; altogether there are between twenty-five and thirty on each elytron.

LEPTOPS LONGIPES, n. sp.

Black, parts of legs obscurely diluted with red. Densely clothed with whitish mixed with ashen scales; elytra with numerous short, thin setae, slightly longer on the apical slope than towards the base, denser on legs than elsewhere.

Head with a long, but apparently rather shallow, interocular fovea. Rostrum not very long, sides feebly incurved to middle; median carina (if present) not traceable through clothing, sublateral sulci rather deep and narrow; scrobes rather shallow posteriorly, directed towards lower edge of eyes, but then directed upwards. Antennae rather short; first joint of funicle distinctly longer than second. *Prothorax* not very wide, sides irregularly rounded, feebly depressed along middle, elsewhere with low vermiculate elevations. *Elytra* elongate-ovate, or elliptic; punctures more or less concealed, but evidently of moderate size; with numerous small tubercles. *Legs* rather long; front tibiae not visibly denticulate; claw-joint unusually long. Length, 16 mm.

Hab.—South Australia: Port Augusta (Blackburn's Collection). Type (unique), I. 5535.

In general appearance somewhat like *suturalis*, but with the head and rostrum very different. In the 1906 table of the genus it would be associated with *horni*, from which it differs in being considerably larger, median carina of rostrum scarcely traceable, prothorax much smoother, elytra with more numerous tubercles, but of which there are not two conspicuously larger ones on the suture about summit of apical slope. The setae on the supper-surface, although short, are decidedly thin; on the tarsi and on the under-surface of the tibiae they are much longer, almost hair-like, in fact. There is a greenish lustre on some scales of the antennae and legs. The third, fifth, and seventh interstices

have numerous small but distinct tubercles, the rows on the third and fifth terminate near summit of apical slope, the row on the seventh about the middle; in addition, there are numerous small but distinct ones on the suture, and a few still more obtuse ones on the basal third of the second interstice.

LEPTOPS LATIPENNIS, n. sp.

Black. Densely clothed with small, round, pale, muddy-brown (scarcely fawn-coloured) scales; upper-surface with very inconspicuous setae, but becoming dense and moderately long on abdomen and legs.

Head with inter-ocular fovea small and partly concealed. Rostrum moderately long; median carina distinct but feebly elevated, the grooves on each side feeble; sublateral sulci rather shallow and open posteriorly; scrobes comparatively narrow, at base directed upwards so as to margin the eyes. Antennae of moderate length; joints of the funicle more cylindrical than usual. *Prothorax* moderately transverse, sides irregularly rounded, with a rather large median excavation; surface roughly vermiculate-tuberculate. *Elytra* rather briefly ovate, across middle fully twice the width of prothorax; with numerous almost regular rows of rather large punctures; suture, third, fifth, seventh, and ninth interstices tuberculate, tubercles small, but many acutely conical. *Legs* rather long; tibiae rather strongly denticulate. Length, 13-15 mm.

Hab.—Australia (Old Collection); Northern Territory: Daly River (G. F. Hill). Type, I. 5520.

At first glance apparently a member of the group with armed prosternum, but the swellings in front of the front coxae are so extremely feeble that it would be wrong to treat them as armature; the species, therefore, in the 1906 table of the genus would be associated with *horni*, from which it differs in being considerably larger, rostrum longer and very differently sculptured at sides, and seventh interstice of elytra with a series of small but acute tubercles. In general appearance it is somewhat like large specimens of *cacozelus*, or small ones of *parvicornis*, but the intermediate carinae of rostrum are not suddenly terminated as on those species. A few of the scales have a golden lustre. The elytral setae are so few in number and so closely resemble the scales that at first they appear to be absent; even on the apical slope they are inconspicuous. There is a conspicuous pair of conjoined tubercles on the suture near apical slope, and a few feeble ones before same; on the third and fifth interstices the tubercles are largest (but not very large) posteriorly, on the seventh they are largest towards the base, the tubercles on the ninth are

very small; there are altogether from twenty to twenty-five on each elytron.

LEPTOPS FEROX, n. sp.

Black, antennae and tips of spines diluted with red. Rather sparsely clothed.

Head with inter-ocular fovea very shallow. Rostrum moderately long, upper-surface with five conspicuous carinae; scrobes deep in front, but vanishing before the middle. Antennae moderately long and thin. *Prothorax* moderately transverse, sides increasing in width from base to near apex and then suddenly narrowed to apex, with a wide median excavation bounded by irregular longitudinal elevations, between this and sides irregularly vermiculate. *Elytra* elongate-elliptic, with large punctures and large acute tubercles or spines; apex bimucronate. *Legs* long; tibiae scarcely visibly denticulate; claw-joint unusually long. Length, 12 mm.

Hab.—Northern Queensland (Blackburn's Collection). Type (unique), I. 5533.

In the 1906 table of the genus would be associated with *gladiator* and *laticollis*, from which it differs (besides in many other particulars) in the greater number of its tubercles. I know of no species closely resembling it in general appearance. The two large spines terminating the subsutural row almost meet at their bases, but nevertheless could hardly be regarded as "on" the suture; their position is practically that of the end ones on the third interstice, but that interstice, owing to the large size of the tubercles and the punctures is not easily made out. On the type, scales are dense only on the antennae, tibiae, and tarsi, ⁽²¹⁾ elsewhere they are decidedly scarce; on the legs, muzzle, and under-surface there are numerous pale setae: the inequalities of the elytra were filled with a reddish kind of greasy meal, but on soaking the specimen for some time in chloroform most of this disappeared. The five rostral carinae are of almost exactly the same length and elevation, and parallel almost throughout, the median one is joined to the apical plate, the two on each side are joined together in front, but not behind; in consequence the sublateral sulcus, which they margin, is very narrow and open posteriorly. The elytral punctures are large, but the rows are considerably affected by the tubercles; in turn, it is difficult to define the interstices the tubercles should be regarded as being on; those on each elytron are in

(21) Their presence there would appear to indicate that the other parts of the body and appendages have not been considerably abraded.

two conspicuous rows, commencing near the base and terminating near summit of apical slope, six in the inner and five in the outer row, of these the smallest is humeral; there is also a small but subconical tubercle half-way down the apical slope.

POLYPHRADES LONGIPENNIS, Pasc.

This is an abundant and widely distributed species in South Australia, and varies considerably in size (6-11 mm.): its scales are usually ashen-grey, but vary to ashen-green, and even to ruddy-golden; the elytra with the fifth and seventh interstices conjoined posteriorly so as to become costate to apex, is its most distinctive (although not unique) feature.

POLYPHRADES RUGULOSUS, Blackb., ♀.

Cherrus longulus, Blackb., ♂.

The types are in the South Australian Museum, and undoubtedly belong to but one species, of which *rugulosus* is the female and *longulus* the male, although the latter was referred to *Cherrus* on account of the rather long scape; of the same length, however, as in *rugulosus*, which was described as a "typical" *Polyphrades*. It belongs to a group of species that might be referred to either *Polyphrades* or *Cherrus*; but perhaps are preferably regarded as of the former. In addition to the type localities, specimens have been taken at Kalgoorlie and Boorabbin.

POLYPHRADES PICTUS, Blackb.

In his table of *Polyphrades*,⁽²²⁾ Blackburn distinguished *pictus* and *biplagiatus* from the other species by "head very conspicuously strigose longitudinally"—a character he did not mention in the description. In *biplagiatus*, even before abrasion, the head is seen to be quite strongly strigose; but on five co-types of *pictus* the striation was not conspicuous before abrasion, although where the scales were intentionally removed it was very evident.

POLYPHRADES ROSTRALIS, Blackb.

Two specimens from Paringa differ from some co-types of this species in having the clothing on the head and on the sides of prothorax and elytra metallic; on one specimen there are some brilliant green scales, forming a conspicuous line from apex of prothorax to apex of elytra, the scales between this line and the margins are more of an ashen-green. On the second specimen most of the scales are golden-green or

(22) Proc. Linn. Soc. N.S. Wales, 1893, pp. 282, 283.

golden, many on the sides being brilliantly metallic; on the upper part of its elytra, however, there are many obscure patches of chocolate-brown scales.

POLYPHRADES FORTIS, Blackb.

There are nine specimens before me (varying in length from 10 to 16 mm.) that evidently belong to this species, which appears to be a singularly easily abraded one, as six of them have the upper-surface almost entirely glabrous, on the elytra a few scales remaining only on the sides and apex. A specimen in perfect condition has the whole of the upper-surface closely covered with small round ashen scales, but with a slight metallic gloss in places; on the apical slope of its elytra there are some short setae (even these are missing from the other specimens), and the sides for the space of three interstices (as on the type) are densely clothed with pale scales. The other two specimens are too dirty for their clothing to be noted. The type was from Victoria, those before me from Murat and Streaky Bays and Norseman.

A specimen from Kuminin (Western Australia) probably also belongs to the species; its clothing is much as on the perfect specimen, but the five rostral carinae are much less conspicuously elevated and shorter (they vary, however, on the nine specimens), and many of the elytral punctures are transversely connected, the connecting depressions often extending across three or even more interstices; on two of the other specimens, however, there is an evident tendency to this structure, but on most of them the punctures are completely isolated.

POLYPHRADES UNIFORMIS, Lea.

Some specimens from Mullewa and Geraldton of this species are more conspicuously variegated than the types: they have three vaguely infuscated lines on the prothorax: on the elytra there are numerous patches of golden-red scales set amongst sooty-brown ones, on others the paler spots are of a dingy greyish-white. One specimen from Coolgardie at first glance appears to have very dingy scales on the elytra, but on close examination they are seen to be of a beautiful golden-rose colour on the upper-surface, changing to pale golden-green on the sides.

POLYPHRADES LATUS, Lea.

Four specimens from the Stewart River (Queensland) differ from the types in being much smaller (4-5 mm.).

POLYPHRADES GRANICOLLIS, Lea.

Some specimens of this species (from Mount Lofty and Port Lincoln) are very small (ranging down to 3 mm.), and three of these from Mount Lofty have the elytral setae less depressed than usual; others are slightly larger than the types. In general appearance the species is fairly close to *pictus*, except that the average specimen is less brightly coloured, but on abrasion the head is seen to be non-strigose, except to a slight extent in the immediate vicinity of the eyes.

POLYPHRADES BASALIS, n. sp.

Black, appendages in parts obscurely diluted with red. Densely clothed with light-brown scales, paler on sides and about base of elytra than on disc, under-surface of body and of legs with white scales; with fairly numerous setae, becoming dense (but depressed) on elytra.

Rostrum very short and wide, on an almost even plane with head, and scarcely depressed and non-carinated along middle, inter-antennary space very wide; apical plate short, notched in front. *Scape* stout, short, and lightly curved; basal joint of funicle almost as long as second and third combined, fourth to seventh transverse. *Prothorax* almost twice as wide as long, sides gently rounded; with small dense granules, readily traceable before abrasion. *Elytra* subovate, sides rather strongly rounded, suddenly narrowed at base; with regular rows of large, deep punctures, appearing small through clothing. *Tibiae* lightly denticulate; claws not quite even. Length, 6-6½ mm.

Hab.—Northern Territory: Darwin (H. Wesselman). Type, I. 5591.

In general appearance fairly close to females of *basirostris*, but space between scrobes much greater, eyes less convex, and base of rostrum and of elytra different; the much wider space between the scrobes also distinguishes the species from *collaris* and *ampliatius*. On the front of the rostrum and on parts of the legs the scales have a more or less golden lustre; there are some small patches of sooty-brown scales on the sides of the elytra. From some directions the rostrum is seen to have a small glabrous triangle, but it is not conspicuously elevated above the adjacent parts and is not joined to a median carina; seen directly from in front or behind its triangular shape is not at all evident, whereas on most species the apical triangle is quite conspicuous from any point of view. The two specimens before me are probably females.

A specimen from East Kimberley (Inspector Stephens) appears to belong to this species, but differs in being smaller

($4\frac{3}{4}$ mm.), clothing entirely ashen, and elytral setae rather more conspicuous.

POLYPHRADES PLANIPENNIS, n. sp.

Black, parts of appendages very obscurely diluted with red. Densely clothed with ashen scales, darker on the upper-surface than on the under-surface; with dense setae.

Rostrum short and wide, on an even plane with front of head, with a narrow median line, inter-antennary space very wide and obliquely dilated to eyes; apical plate triangular and densely punctate. Scape stout; first joint of funicle as long as second and third combined, third to seventh transverse. *Prothorax* moderately transverse, sides strongly and evenly rounded; with small dense granules almost concealed before abrasion. *Elytra* very wide, more than half of their surface flat, base conjointly rather lightly arcuate, shoulders strongly rounded, widest near base; with rows of large, quadrate punctures, appearing much smaller, but in distinct striae, before abrasion. *Tibiae* finely denticulate; claws almost equal, separated for about half their length. Length, $6\frac{3}{4}$ -7 mm.

Hab.—Northern Territory: Tennant Creek (J. F. Field). Type, I. 5809.

The very wide rostrum, not distinctly separated at base from head and very wide between the scrobes, strongly and evenly rounded sides of prothorax, and very wide elytra, will in combination readily distinguish this species from the other Northern Territory ones. Its general appearance is somewhat like that of *latus*, but the rostrum is very different. *Tumidulus*, which also has the rostrum and front of head on an even plane, is a strikingly different species. The setae are everywhere dense, on the prothorax they are mostly directed towards the middle, on the elytra, in conjunction with the dense clothing on the interstices, they give the surface a striped appearance. The discal portion of the elytra is unusually wide and flat.

POLYPHRADES DURIUSCULUS, n. sp.

Black, tarsi obscurely diluted with red. Densely clothed with muddy-brown scales, feebly variegated in places, and mixed with numerous stout setae.

Eyes almost circular and rather prominent. Rostrum rather short and wide, feebly depressed along middle, inter-antennary space conspicuously narrowed to middle, where the width is about equal to that of an eye; apical triangle distinctly elevated and punctate. Scape rather short, lightly curved; basal joint of funicle not very long, slightly longer

than second, second feebly, the others rather strongly transverse. *Prothorax* moderately transverse, sides moderately, base and apex lightly rounded; with dense round granules, very distinct after but not before abrasion. *Elytra* elongate-subcordate, not much wider than prothorax, widest about middle; with regular rows of large round punctures, appearing very small but in distinct striae before abrasion. *Legs* rather short and stout; claws short, equal, separated from about the middle. Length, 5 mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type (unique), I. 5810.

A rough-looking species, larger than *parvus*, inter-antennary space more narrowed posteriorly, antennae stouter, prothorax less rounded, and clothing rougher. Considerably narrower than *latus*, prothoracic granules not conspicuous before abrasion, and their setae stouter and more depressed; the elytral setae are also decidedly less numerous than on that species. The clothing is so dense that the inter-ocular sculpture is entirely concealed, but a small portion has been abraded near an eye, and is seen to be rather strongly obliquely strigose; the prothoracic granules are scarcely traceable through the clothing, although each is supplied with a stout seta. There are some feeble pale spots of scales at the base of elytra, between eyes, and on the legs, and still more feeble spots on the pronotum; the setae are stout, but all more or less decumbent.

POLYPHRADES MAESTUS, n. sp.

♂. Black, parts of appendages obscurely diluted with red. Densely clothed with muddy-brown, feebly-variegated scales, becoming ashen on under-surface; moderately densely but rather inconspicuously setose.

Eyes rather large and ovate. Rostrum moderately long, tricarinate, median carina narrow and conspicuously joined to a conspicuous and almost impunctate apical triangle. Scape stout and almost straight; first joint of funicle slightly longer than second and third combined, second slightly longer than third, the following ones lightly transverse. *Prothorax* rather lightly transverse, sides moderately and evenly rounded; granules dense, round, and distinct before abrasion. *Elytra* moderately long, base conjointly lightly arcuate, widest at about basal third; with regular rows of large, suboblong punctures, appearing much smaller through clothing, but striation deep and distinct. *Legs* moderately long; tibiae distinctly denticulate; claws short, equal, and separated only near apex. Length (♂, ♀), 6½-8 mm.

♀. Differs in having wider elytra, basal segment of abdomen distinctly convex (instead of flat in middle), and appendages somewhat shorter.

Hab.—South Australia: Lucindale (B. A. Feuerhardt and A. M. Lea). Type, I. 5811.

Belongs to a group of closely-allied species, distinguishable mostly by characters of the rostrum and elytra. The intermediate carinae of the rostrum, which are partially concealed by the clothing, slightly converge towards the base; in *fulvus* they diverge towards the base; there are also slight differences in the base of elytra, in the clothing, etc. From *nanus* it differs in the base of prothorax and elytra, in the much sparser elytral setae, etc. *Pictus* has the inter-antennary space decidedly narrower, scape shorter and more curved, and elytral setae different. *Nitidilabris* is a somewhat wider species, with median carina of rostrum apparently absent and with dense elytral setae; on the present species the setae are never more than in three rows on an interstice, and in places are in but one or two, they are also more depressed and inconspicuous. Some of the scales on the under-surface and legs have a golden or rosy gloss, especially in the males. Seen directly from the side the rostrum appears to be depressed at its junction with the head, although without a conspicuously impressed line as on some species of the genus.

POLYPHRADES HALMATURINUS, n. sp.

♂. Black, appendages more or less red. Closely covered with obscurely mottled brown and ashen scales, becoming more or less metallic on under-surface; rather sparsely setose.

Eyes fairly large and ovate. *Rostrum* moderately long, tricarinate, the sublateral ones slightly converging hindwards but not extending to base, median one narrow and distinct, joined to a conspicuous apical triangle. *Antennae* comparatively thin; first joint of funicle as long as second and third combined, second as long as third and fourth combined, fourth to seventh transverse. *Prothorax* moderately transverse, sides strongly and evenly rounded; densely granulate and punctate. *Elytra* briefly subovate, sides strongly rounded and widest across basal third; with regular rows of large, subquadrate punctures, appearing small and in narrow striae through clothing. *Legs* moderately long; claws short, equal, and separated near the tip only. Length, $3\frac{1}{4}$ - $3\frac{3}{4}$ mm.

♀. Differs in having the prothorax slightly longer, elytra distinctly wider, two basal segments of abdomen rather strongly convex (instead of the first flat in middle and the second gently convex), and the appendages shorter.

Hab.—South Australia: Kangaroo Island (J. G. O. Tepper). Type, I. 5812.

A small species, slightly larger than the average size of *laetus*, with slightly stouter antennae, and the inter-antennary space distinctly wider; the clothing is also not the same (although the markings of *laetus* are very variable). From very small specimens of *granicollis* it is distinguished by its narrower form, thinner antennae, and differently-sculptured prothorax. *Inconspicuus* is a more coarsely-sculptured species, with stouter and darker antennae, etc.; all the other small species differ from it in many respects. The scales on the upper-surface are mostly of a rather dingy-brown, obscurely mottled with ashen spots, but on some specimens many of the scales have a slight golden or golden-green gloss; on the under-surface most of the scales are golden or golden-green. At first glance the upper-surface appears to be without setae, but on close examination one or two irregular rows may be traced on each elytral interstice. The prothoracic granules are not conspicuous before abrasion, and even after the scales have been removed they are seen to be all more or less conjoined, with numerous intervening punctures. Where I have abraded the head it is seen to be sparsely punctate and non-striate.

POLYPHRADES MACROPS, n. sp.

Black, some parts obscurely diluted with red, appendages flavous, in parts lightly infuscated. Upper-surface densely clothed with scales, and with thin but suberect setae; under-surface almost glabrous.

Eyes unusually large and almost circular. Rostrum rather short and parallel-sided, inter-antennary space without traceable carinae, apical plate semi-circular. Scape comparatively long and thin, lightly curved; two basal joints of funicle moderately long, the first stout, third to seventh thin but transverse; club briefly ovate. *Prothorax* moderately transverse, sides strongly and evenly rounded, with dense granules traceable through clothing. *Elytra* distinctly wider than prothorax at base, sides feebly rounded to beyond the middle, and then strongly narrowed to apex, with regular rows of large punctures, appearing very small through clothing. *Femora* stout; claws notched at tip. Length, $2\frac{1}{2}$ mm.

Hab.—South Australia: Mount Gambier; Tasmania: Hobart (A. M. Lea). Type, I. 5613.

In general appearance like a small *Mandalotus*, but claws soldered together except at the tip. The eyes are considerably larger (in proportion, fully twice as large as in *laetus*) than in any other described species of the genus, and this

character alone will readily distinguish it from all the others; they are almost perfectly circular in outline, but from above appear rather narrowly elliptic, and at the base are more than twice as far apart as at the apex. The scape is almost as long as the funicle and club combined. Both specimens at first appear to be uniformly covered with muddy-looking scales, but on the Mount Gambier specimen, in certain lights, many of them appear conspicuously golden or golden-red.

STENOCORYNUS LEPIDURUS, n. sp.

Black, appendages more or less obscurely reddish. Irregularly clothed with more or less muddy-brown scales, on the legs mixed with numerous setae.

Head with small punctures between eyes; inter-ocular fovea suboblong and fairly large. Rostrum almost twice as long as wide, with a conspicuous median carina, on each side of which is a deep groove; sublateral sulci deep and sub-crescentic in form. Scape about as long as four following joints combined; two basal joints of funicle rather long, none of the others transverse. *Prothorax* rather lightly transverse in male, widely so in female, with an irregular transverse subbasal impression; surface irregularly vermiculate; front margin conspicuously incurved behind each eye, and lightly in middle. *Scutellum* minute. *Elytra* not much wider than prothorax at base, sides dilated to beyond the middle; with somewhat irregular rows of large, round, deep punctures, a few about base transversely confluent; third interstice rather lightly elevated, sixth still more lightly. Length, 10-13 mm.

Hab.—Queensland: Coen River (W. D. Dodd and H. Hacker). Type, I. 5627.

On the pronotum and most of the elytra the clothing is rather sparse, but on the apical slope of the latter it is unusually dense, and this does not appear to be due to abrasion elsewhere, as it is alike on the three specimens before me (two of which were taken *in cop.* by Mr. Hacker). The eyes are narrower and the elytral punctures much coarser than on any other species of the genus.

ONESORUS CONIFER, Lea.

A specimen from Northern Queensland differs from the type in having the humeral tubercle less conspicuous, but otherwise agrees well with it.

ONESORUS ARMIPENNIS, n. sp.

Reddish-brown, in places almost black. Densely clothed with variegated scales, interspersed with numerous stout and more or less decumbent setae.

Head with an obtuse elevation close to each eye. Eyes elongate-ovate. Rostrum short and stout; median carina distinct in middle, commencing at a narrow inter-ocular fovea, and not joined to apical plate; sublateral sulci narrow and oblique, open in front but closed posteriorly. Antennae stout; scape about the length of four following joints; two basal joints of funicle moderately long and subequal, the four apical ones transverse. *Prothorax* strongly transverse; surface vermiculate and coarsely punctate; with a distinct median line. *Scutellum* absent. *Elytra* short, much wider than prothorax, with rows of very large punctures, appearing much smaller through clothing, especially posteriorly; fourth, seventh, and tenth interstices elevated, the tenth with a conspicuous, subconical, humeral tubercle. *Claws* distinctly but not widely separated from about their middle. Length, 8-9 mm.

Hab.—Queensland: Stewart River (W. D. Dodd). Type, I. 5650.

In general appearance somewhat like *Leptops frontalis*, but very different between the eyes and with the shoulders tuberculate. The claws are close together on their basal half, but could scarcely be considered to be soldered together as in *Zygmus*. The colour of the derm is variable, and although on the two typical specimens is more or less reddish, on the variety noted below it is almost entirely black. The scales are mostly whitish, often with a silvery lustre, but change in places to a rather light-brown or slaty-grey, verging to ochreous: on each elytron, however, there is a conspicuous patch of black scales, commencing suddenly at about one-fourth from base and extending about half-way to the apex on the eighth and ninth interstices. The sculpture of the rostrum is distinct, although the clothing is dense; between each median groove and sublateral sulcus there is an elevation that commences rather widely at the subtubercular elevation and runs out to a sharp point, slightly in advance of the median carina; as a result, the rostrum across the middle has five conspicuously-elevated lines, at the extreme base two obtuse ones, and in front two obtuse ones. The elevated interstices on the elytra appear to be slightly undulating in height, but this is principally due to the alteration in colour of their clothing.

Another specimen from the Stewart River differs in being larger (12 mm.), clothing much dingier, elytra without the conspicuous black patches, setae rather longer and more numerous, and inter-ocular carina larger and wider, without an obtuse tubercle between it and each eye.

ONESORUS VERMICOLLIS, n. sp.

Black, some parts obscurely reddish. Densely clothed with scales of various shades of slaty-grey and brown, mixed with setae.

Head with an obtuse swelling near each eye. Eyes elongate-ovate. Rostrum stout; median carina rather feeble, but traceable from a rather narrow inter-ocular fovea to apical triangle; sublateral sulci slightly open in front, but closed posteriorly. Antennae stout; scape very little shorter than funicle; two basal joints of funicle moderately long and subequal, four apical joints transverse. *Prothorax* strongly transverse, with coarse vermiculate sculpture and large irregular punctures, median line rather feeble. *Scutellum* apparently absent. *Elytra* short and broad, with rows of very large punctures, appearing much smaller through clothing; fourth, seventh, and tenth interstices elevated, the fourth very conspicuously so about summit of apical slope. *Claws* free throughout. Length, 8 mm.

Hab.—Queensland: Coen River (W. D. Dodd). Type (unique), I. 5663.

In general appearance strikingly close to the preceding species, but with claws quite free and shoulders non-tuberculate. The scape is almost as long as the funicle, a character which will readily distinguish it from *pullatus*, in which it is no longer than the three basal joints of same. In *maculosus* the scape, although longer than on *pullatus*, is distinctly shorter than the funicle; that species also differs in having no joints of the funicle transverse, thinner and differently-sculptured rostrum, and prothorax with much smaller punctures. The clothing, as with other species of the genus, is probably variable; on the type the lower parts and legs are mostly clothed with paler scales, on the upper parts the scales are mostly of a rather dark-brown, becoming almost black in places, but on the elevated parts rather conspicuously variegated. The setae on the antennae and legs are dense and very distinct, but on the upper parts they are much sparser, stouter, and closely resemble the scales amongst which they are placed.

ONESORUS OCULARIS, n. sp.

Black, in parts more or less obscurely diluted with red, appendages almost entirely reddish. Densely clothed.

Head wide and gently convex between eyes; these very conspicuous. Rostrum wide, upper-surface flat and non-carinate, with a narrow median groove vaguely traceable on to front of head; sublateral sulci entirely absent; scrobes short, rather abruptly terminated. Scape about as long as

the four following joints combined; two basal joints of funicle moderately long, the second slightly longer than first, none of the others transverse. *Prothorax* fully twice as wide as the median length, sculpture partially concealed. *Elytra* briefly ovate, shoulders and sides strongly rounded, across middle fully twice the width of prothorax; with rows of large deep punctures close together, but appearing much smaller through clothing; fourth, seventh, and tenth interstices rather lightly elevated. Claw-joint long, with free claws. Length, 8-10 mm.

Hab.—North-western Australia (C. French), Derby (W. D. Dodd). Type, I. 5666.

The clothing appears to be variable, but is in perfect condition on only one of the four specimens before me; on that specimen it is mostly of a greyish-white, but on the upper parts of the elytra becoming of a mottled light-brown, the mottling more conspicuous on the elevated parts than elsewhere; the setae are dense, and distinct only on the tibiae and muzzle; on the second specimen the clothing is mostly of a dingy-brown, with two rather wide, vague, paler stripes on the elytra, extending from the base almost to the apex; on the third specimen the clothing is almost entirely of a dingy-white; the fourth specimen is very badly abraded. The eyes are very peculiar; when viewed from above they appear to be subangular in the middle; from the side the front edge is seen to be rounded and the hind one incurved, as a result the top portion is much wider than the other portions; the hind margin also appears to be carinated, but this is somewhat obscured before some of the clothing has been removed. On abrasion the head and rostrum are seen to be closely covered with punctures, those on the latter more or less obliquely confluent. The prothorax appears to be closely and irregularly punctate, but on abrasion is seen to be closely covered with net-like elevations, enclosing large irregular punctures. Three of the specimens have a small but distinct scutellum, but on the fourth it is not traceable.

ONESORUS PULLATUS, n. sp.

Black, in places obscurely diluted with red. Densely clothed with somewhat variegated scales, mixed with setae, the latter stout and rather inconspicuous on upper-surface, but denser and longer on tibiae.

Head rather strongly convex between eyes; these briefly ovate. Rostrum short, sculpture more or less concealed by clothing. Scape stout, not as long as the three following joints combined; second joint of funicle slightly longer than

first, none of the others transverse. *Prothorax* almost twice as wide as the median length; surface with vermiculate but partially-concealed sculpture, median line distinct. *Scutellum* triangular and distinct. *Elytra* briefly ovate, shoulders and sides strongly rounded; with regular rows of very large punctures, appearing much smaller through clothing; fourth, seventh, and tenth interstices rather lightly elevated. *Claw-joint* long and thin and with free claws. Length, 6-8 mm.

Hab.—Northern Territory: Daly River (H. Wesselman). Type, I. 5664.

In general appearance somewhat like the preceding species, but with very different eyes and shorter scape; the latter is quite unusually short, being scarcely as long as the three basal joints of funicle combined. In general appearance it is fairly close to a Queensland species identified by Blackburn, with doubt, as *candidus*, but differs in having the prothorax and elytra much wider, the latter more abruptly increasing in width near the base, and with scape distinctly shorter. The clothing is not exactly the same on any two of the five specimens in the Museum; on the type it is mostly ashen-grey with a smoky spot behind each eye, three smoky longitudinal stripes on prothorax, the elytra irregularly spotted and striped with smoky-brown and stramineous, and the femora obscurely ringed; on the second specimen the darker spots and patches on the upper-surface are very confusedly arranged; on the three others the clothing is mostly of a uniform dingy-stramineous, with three obscure stripes on prothorax and three or four on elytra; on one of them the clothing on the suture is paler than on the adjacent parts; on the others the somewhat darker scales are not interrupted by the suture; the other stripe on each elytron is on the eighth and ninth interstices (and sometimes on part of the adjacent ones) for the greater portion of their length. To the naked eye (as on the type of the preceding species) some of the elevated parts have a regularly-spotted appearance. The apparent sculpture of the rostrum depends to a certain extent on the density of the scales; on the type it appears to be grooved and non-carinate along the middle, with the sublateral sulci fairly distinct; on another it appears feebly carinated along the middle, and with the sublateral sulci absent.

ONESORUS ALBATUS, n. sp.

Black, some parts of appendages obscurely diluted with red. Densely but irregularly clothed with snowy-white scales; the under-surface, appendages, and muzzle with rather dense setae.

Head rather strongly convex between eyes; these ovate. Rostrum rather long for the genus, with a conspicuous median carina from a rather feeble inter-ocular fovea to the feebly-defined apical triangle; sublateral sulci rather elongate and partially concealed; scrobes feebly sinuous, directed towards lower third of eyes. Antennae comparatively long and thin; scape about the length of five following joints combined; first joint of funicle slightly longer than second, the others gradually decreasing in length, but none transverse. *Prothorax* somewhat transverse, front margin somewhat sinuous; surface irregularly sculptured. *Elytra* briefly ovate, about twice the width of prothorax, surface very irregular. *Legs* comparatively long and thin: claw-joint long and thin, claws rather feebly separated from about the middle. Length, 10 mm.

Hab.—South Australia: Yunta (— Bunkitt). Type (unique), I. 5839.

The rostrum is longer than in other species of the genus, and but for the claws the present one probably would have been referred to *Leptops*. The type is possibly somewhat abraded, but probably not. The snowy scales on the under-surface, rostrum, and legs (except that in places the setae are denser than elsewhere) are dense and almost regular, on the prothorax they are dense on the sides and form an irregular stripe on each side of the middle; on the elytra they are dense in places, notably on the median third of the fourth interstice and on parts of the seventh, but in places they are very sparse or wanting; the elytra are without setae, except for a few on the apical slope. The sculpture of the prothorax appears to consist of irregular transverse or oblique elevations, each crowned with a row of punctures or granules, but where the scales are sparse the surface is very irregular. The scutellum appears to be absent. The elytra have somewhat irregular rows of large punctures, the majority of which are more or less obscured by scales, the suture is somewhat elevated posteriorly and has small granules throughout, and granules are rather numerous on the basal third; about the middle of each elytron there is a very irregular impression (these at first appear to be accidental, but as they are much alike on the two sides presumably they are normal).

ONESORUS TARSALIS, n. sp.

Reddish-castaneous, some parts darker. Clothed with snowy-white scales, on the legs mixed with dense fine setae.

Head gently convex between eyes, these rather briefly ovate; inter-ocular fovea narrow. Rostrum moderately long,

median carina rather feeble and inconspicuously joined to apical triangle; sublateral sulci partially concealed. Scape about the length of four following joints combined; first joint of funicle slightly shorter than second, none of the others transverse. *Prothorax* almost twice as wide as the median length, surface irregular and with two irregular transverse impressions. *Scutellum* absent. *Elytra* subovate, sides rather strongly rounded, with regular rows of large, deep punctures, partially concealed in places; fourth, seventh, and tenth interstices somewhat elevated. *Legs* comparatively long and thin; claw-joint unusually long and thin, claws conspicuously separated throughout. Length, 9 mm.

Hab.—Central Australia: Finke River (Captain S. A. White). Type (unique), I. 5840.

The claw-joint is thinner and about twice the length of that of *maculosus*, but there are many other differences. The type is probably somewhat abraded; on the under-surface, legs, and sides the scales are dense and uniform, except that in places some of them have a silvery lustre; on the prothorax they are condensed into four irregular stripes (causing an appearance as of three conspicuous dark intervening stripes), on the elytra they are very irregularly distributed, and the apical slope has a curious transversely spotted appearance.

Following is a table of the species known to me:—

A. Shoulders conspicuously armed.			
a. No joints of funicle transverse	...	...	<i>conifer</i>
aa. Some joints transverse	...	...	<i>armipennis</i>
AA. Shoulders unarmed.			
B. Claws not separated throughout	...	...	<i>albatus</i>
BB. Claws separated throughout.			
C. Eyes apparently carinated	...	...	<i>ocularis</i>
CC. Eyes not carinated.			
D. Each elytron without three conspicuously elevated interstices.			
b. Hind tibiae with a few small but conspicuous teeth	...	...	<i>hoplocnemus</i>
bb. Hind tibiae at most minutely denticulate	...	...	<i>squamosus</i>
DD. Each elytron with three conspicuously elevated interstices.			
E. Three apical joints of funicle transverse			
...	...	...	<i>vermicollis</i>
EE. No joints of funicle transverse.			
F. Scutellum distinct and occupying a basal notch in elytra			
...	...	...	<i>pullatus</i>
FF. Scutellum indistinct and elytra without a notch for same.			
G. Fully three-fourths of front claw joint projecting beyond lobes of third			
...	...	...	<i>tarsalis</i>
GG. Scarcely more than half projecting			
...	...	...	<i>maculosus</i>

I have only been able to include one of the original species in the table; of the others, I have seen a co-type of *obesus*; in size, shape, and general appearance it is fairly close to *squamosus*, but its elytral punctures are quite twice as large as those of that species.

O. tigrinus (from "Australia") is perhaps nearer *pullatus* than any other species, but the description of its elytral clothing and tibial setae are at variance with the five specimens of *pullatus* under examination.

O. candidus (also from "Australia") is very briefly described, but short as the description is I have seen nothing that will fit it; a Queensland species, close to *maculosus*, was doubtfully identified by the late Rev. T. Blackburn as *candidus*, but differs from the description in several particulars, and it was considered not advisable to include it in the table.

ATERPUS FOVEIPENNIS, Lea; var. BIFOVEIFRONS, n. var.

A recently-obtained specimen possibly represents a variety of this species. It differs from the type in being slightly larger (11 mm.), with the upper-surface (except for a few of the elytral foveae) quite as densely clothed as the under. Rostrum somewhat irregularly impressed in front. Prothorax with more conspicuous setae, punctures much smaller (at least, apparently so), and with a curious, small, shining, pear-shaped fovea on each side of the apex, immediately in a line with the middle of the eye. Elytra with third and fifth interstices much more distinctly elevated and nowhere subtuberculate.

Hab.—Queensland: Cairns district (A. M. Lea). Type of var., I. 2726.

MERIPHERELLUS NIGRICLAVUS, n. sp.

Chocolate-brown, rostrum, antennae (the club black) and legs (hind femora dark near, but not at, apex) flavous. With white scales between eyes, on prothorax, apex of elytra, and on under-surface.

Head with dense punctures. Eyes large, coarsely faceted, separated slightly more than half the width of base of rostrum. Rostrum moderately long, somewhat curved, dilated at apex; with rows of rather small punctures. Antennae thin, inserted about one-fifth from apex of rostrum; scape almost as long as funicle and club combined; first joint of funicle stouter and longer than second; club moderately long. *Prothorax* small, almost twice as wide as long, sides rather strongly rounded, base much wider than apex; with

dense punctures, in places concealed. *Elytra* scarcely once and one half as long as wide, much wider than prothorax, widest across shoulders, with rows of large punctures in rather deep striae; interstices each with a row of punctures. *Legs* long; femora stout, front lightly, middle moderately, hind strongly and acutely dentate; tibiae thin; front tarsi wide, flat, and fringed with long hairs; basal joint elongate-triangular, longer than the two following combined; second rather strongly dilated, with the apex notched; third cleft almost to base, with the lobes divergent; fourth rather small. Length, $1\frac{3}{4}$ mm.

Hab.—Northern Queensland (Blackburn's Collection). Type, I. 2727.

It was with some doubt that this species was referred to *Meripherellus*, as its front tarsi are very different to those of *apicalis*. They are, in fact, very peculiar, but may be sexually variable; the type appears to be a male. The white scales are as described, but the type shows traces of abrasion. From some directions parts of the elytral interstices appear to be ridged, so that there they appear to be much narrower than the seriate punctures.

MICRAONYCHUS RUFIMANUS, n. sp.

Reddish-brown, in places almost black; most of rostrum, scape, part of funicle and tarsi more or less reddish. Moderately densely clothed with pale, greenish-blue or bluish-green scales, in places with a slight coppery gloss.

Rostrum long, thin, and shining; punctures concealed about base, near same small but distinct, elsewhere minute. *Prothorax* almost as long as wide, sides gently rounded, base not much wider than apex; punctures partially concealed. *Elytra* slightly wider than prothorax, sides very feebly decreasing in width from shoulders, with regular rows of large, clearly-defined punctures. Length, 2 mm.

Hab.—Northern Queensland (Blackburn's Collection). Type, I. 1887.

A beautiful species, readily distinguished from all others of the genus by its red tarsi. On the front of the prothorax, head, and base of rostrum the scales are mostly smaller than elsewhere, and with a faint coppery lustre; on the prothorax of one specimen there is a distinct median line of scales, but on another the line is not so evident. On the elytra the scales are rather large, and appear in a single row on each interstice, and many of them have a washed-out look. On the under-surface, however, the green is very evident.

MICRAONYCHUS CINERASCENS, n. sp.

Dark piceous-brown, rostrum and parts of antennae and of legs reddish or diluted with red. Densely clothed with round, obscurely whitish scales, interspersed with numerous sooty ones; but the sooty ones rather sparse on legs and almost absent from under-surface.

Head with punctures entirely concealed. Rostrum long, thin, and lightly curved, with small punctures concealed only about extreme base. *Prothorax* moderately transverse, base not much wider than apex; punctures dense and normally concealed. *Elytra* distinctly wider than prothorax, parallel-sided to near apex; with rows of more or less quadrate, deep punctures, close together, but frequently concealed. Length, $2\frac{3}{4}$ -3 mm.

Hab.—South Australia: Port Lincoln, Kangaroo Island (A. M. Lea). Type, I. 2088.

At a glance apparently belonging to *Misophrice* and with the general appearance of *argentata* and *alternata*; but with a distinct pectoral canal, which extends to the abdomen, although becoming very shallow posteriorly. There are numerous subdepressed setae (distinctly visible from the sides only) amongst the elytral scales.

BRENTHIDAE.

EUPSALIS PICTIPENNIS, n. sp.

Pl. xxxii., fig. 3.

♂. Bright castaneous, some parts narrowly darker, elytra with elongate flavous spots or vittae.

Head, from slightly in advance of eyes to insertion of antennae, irregularly excavated and very uneven; mandibles bifid or trifid at tips, internally with several small tubercles. Antennae with joints more or less cylindrical, the eleventh elongate. *Prothorax* smooth, with a few minutely setiferous punctures at sides, sides rather strongly dilated to beyond the middle and then abruptly narrowed at base, a transverse line parallel with the base, the space between longitudinally rugose. *Elytra* slightly narrower than prothorax, almost parallel-sided to near apex; with regular deep striae, mostly suddenly terminating near apex, the striae mostly with deep and large punctures, but becoming smaller towards suture, sides, and apex; interstices impunctate or almost so. *Femora* stout, finely and acutely dentate; tibiae notched for reception of tarsi; true fourth joint of tarsi small, but quite distinct between lobes of third. Length (including mandibles), 17-19 mm.

♀. Differs in having two small foveae between eyes and antennae, rostrum long, thin, cylindrical, and with minute mandibles, prothorax slightly narrower, elytra and abdomen slightly wider and legs slightly shorter.

Hab.—Queensland: Claudie River, several specimens cut out of an old log (J. A. Kershaw). Types in National Museum.

The male differs from the male of *promissus* in being larger, in having the head considerably wider between eyes and insertion of antennae, and the space there largely excavated, without a process projecting obliquely backwards on each side between an antenna and eye, the joints of the antennae more cylindrical, and the elytra with rows of large punctures in regular striae. The female differs from the female of that species also in being without the lateral processes on the head, and by the elytral punctures and striae being as in its own male. The markings are also different; on some specimens they are more conspicuous than on others, but they appear to be always in the same positions on each elytron as follows:—A long one on the third interstice starting from the base, one on the fourth starting from near the apex of the one on the third, one on the eighth from the base to near the middle, a small one on the fifth at the base, one on the sixth at the basal fourth, one on the third near apex, and a transverse cluster on the third to sixth (looking like an irregular interrupted fascia); the ninth interstice also is sometimes pale throughout. The pale parts of the interstices are usually wider than the adjacent parts.

EUPSALIS PROMISSUS, Pasc.

Recorded by Pascoe originally from Batchian. I have previously recorded the species from the Northern Territory, but without quoting the original reference, which is:—Ann. and Mag. Nat. Hist., vol. x. (Ser. 4), 1872, p. 323, pl. xv., fig. 8. The species also occurs in Queensland (Endeavour River). The length and mandibles of the Australian specimens vary as described in the original ones.

CERAMBYCIDAE.

URACANTHUS and allied Genera.

The *Uracanthides* formed Group xxiii. of Lacordaire (VIII.—388), and were by him divided into two sections; the first containing *Scolecobrotus*, *Uracanthus*, and *Aethiora*, and the second *Rhinophthalmus*: with the latter I am not now concerned. To the first group Pascoe added *Emenica*, so that at the present time it contains four genera, and these may

be tabulated (using their authors' diagnostic characters) as follows:—

Antennae composed of twelve joints (23)	<i>Scolecobrotus</i>
Antennae composed of eleven joints.	
First joint of antennae long and thin, sides of prothorax straight	<i>Aethiora</i> (24)
First joint of normal length, sides not straight.	
Elytra with apices rounded (25)	<i>Emenica</i>
Elytra with apices armed	<i>Uracanthus</i>

URACANTHUS GIGAS, n. sp.

♂. Reddish-brown, some parts darker. Densely clothed with short ashen pubescence, denser and somewhat longer on head, prothorax (where it is slightly curly), scutellum, and sterna than elsewhere.

Head with small and large punctures intermingled on clypeus, clypeal suture partially concealed by clothing; muzzle of moderate length. Antennae with at least two joints passing elytra, fifth to tenth joints obliquely produced to one side at apex, tenth slightly shorter than ninth, and about two-thirds the length of eleventh. *Prothorax* about as long as the basal width, sides bisinuate and rounded in middle; disc uneven, becoming corrugated towards sides and in front. *Elytra* moderately wide at base, sides regularly decreasing in width posteriorly, each widely emarginate and strongly bidentate at apex; each with three feeble but distinctly elevated lines, disappearing before apex, the outer one before shoulder; with very dense subasperate punctures of two sizes intermingled, but the largest ones rather small. *Legs* long and thin, basal joint of hind tarsi almost as long as the rest combined. Length, 46-52 mm.

♀. Differs in being larger (66 mm.), elytra wider and less narrowed posteriorly, abdomen much larger, and legs shorter.

Hab.—Queensland: Kingaroy (C. French); Western Australia: Middalyd (26) (National Museum, from T. Worr).

(23) On *Uracanthus triangularis* and *dubius* the antennae are occasionally twelve-jointed.

(24) Its only species, *fuliginea* (originally referred to *Uracanthus*), is unknown to me, as it was to Blackburn. It is frequently difficult to deal with Pascoe's genera, unless their typical species are known.

(25) Judging from the description and figure this is all I can find to distinguish the genus *Uracanthus*, and several species of the latter genus have the apical armature so feeble that it could almost be regarded as absent, and from some it is quite absent.

(26) Possibly a temporary mining camp; the name does not appear in the latest postal guide.

Type (♂) in C. French's collection; type (♀), I. 5690, in South Australian Museum.

Much larger than any previously described species of the genus; each of the three basal joints of the male tarsi has on each side of its apex an acute spine, and these may eventually be considered as of generic importance. The head, prothorax, and scutellum are darker (almost black) than the rest of the body, but no part is of a bright colour. The femora of the male are without distinctively sexual clothing. The eleventh joint of antennae is narrowed from about the apical fourth, the narrow portion appearing to start from a feeble suture. The antennae of the female are probably shorter than those of the male, but on the only one before me they are broken off almost at the base. The two males differ somewhat, the (smaller) one from Western Australia having stouter antennae, the outer line of each mandible an almost even curve (on the type the polished apical portion is deflected almost at a right angle), the apical segment of its abdomen is more strongly concave (probably due to irregularity in drying), and the tarsal spines are less conspicuous.

URACANTHUS INSIGNIS, n. sp.

Pl. xxxii., fig. 5.

Dark piceo-castaneous, elytra (apex and suture excepted) paler. Densely clothed (except for some conspicuously glabrous spaces) with short stramineous and white pubescence.

Head with muzzle almost twice as long as wide; clypeus with a few conspicuous punctures, rounded posteriorly, with the suture deep, triangular, and wide in the middle. Antennae thin, not passing third abdominal segment, fifth to tenth joints rather feebly produced to one side at apex, tenth about two-thirds the length of eleventh. *Prothorax* much longer than wide, base almost twice as wide as apex; glabrous portion with about twenty conspicuous corrugations, but irregular and with a small node on each side of middle. *Elytra* narrow, almost parallel-sided, each widely emarginate and strongly and acutely bispinose at apex, with remnants of feebly-elevated lines; with dense and minute punctures, but on basal third with rather large partially-concealed ones. *Legs* thin, but not very long. Length, 30 mm.

Hab.—New South Wales: Narara (W. du Boulay). Type, I. 5691.

The most beautiful species of the genus, with an unusually long muzzle, curious clypeal suture, and apical spines of elytra unusually far apart. The type is probably a male, although the femora are without distinctively sexual clothing. The clothing on the head is rather dense, but the

muzzle, sides in front of eyes, base, and under-surface are glabrous, or almost so; the prothorax is widely glabrous along middle, the pubescence on each side of the glabrous space appearing as a narrow white line; between each of these and the side the pubescence is stramineous, then there is another white line, narrow at the apex and wide at the base; the scutellum and the suture for a slight distance beyond it are glabrous, then the suture for a slight distance is clothed with white pubescence, but from about the basal third is narrowly dark-brown and glabrous (although not conspicuously so), the apex of each elytron (for a space about two-thirds as long as its width) is highly polished and much darker (the spines are black); on the under-surface the clothing is white or whitish.

URACANTHUS DUBIUS, n. sp.

Pl. xxxii., fig. 6.

♂. Piceous-brown, most of elytra somewhat paler. Densely clothed with somewhat ashen short pubescence, prothorax with two feeble whitish lines, middle femora with very dense suberect pubescence filling a narrow groove along under-surface, hind femora with similar but less dense clothing.

Head with median line deep and well defined, but abruptly terminated near base, clypeus with small dense partially-concealed punctures, its suture deep and sub-triangular. Antennae extending to about one-fifth from apex of elytra, fourth to tenth joints produced on one side at apex, tenth slightly shorter than ninth and about two-thirds the length of eleventh. *Prothorax* longer than wide, strongly transversely multi-corrugate, a series of small nodes across middle. *Elytra* moderately wide at base, parallel-sided from near shoulders almost to apex, each acutely bispinose at apex, with very feebly indicated elevated lines; basal third with dense small punctures, becoming even smaller posteriorly. Length (♂, ♀), 34-36 mm.

♀. Differs in being more robust, antennae distinctly shorter, and femora neither grooved nor specially clothed.

Hab.—Western Australia: Eucla (C. French); South Australia: Denial Bay (Dr. Abbott), Murat Bay (E. A. King), Fowler Bay (Blackburn's Collection, from Professor Tate). Type, I. 5482.

A large dark species, which possibly should have been treated as one of the varieties of *triangularis*, but with sub-humeral markings moderately clothed instead of conspicuously glabrous; it is also considerably darker than that species, somewhat more robust, and the smallest of the six specimens the size

of the largest of numerous ones of *triangularis* before me. One of the specimens was labelled as *fuscocinereus* in the Blackburn Collection, but it is evidently not that species, which is described as being much smaller and as having three smooth brown patches at the base of each elytron: one humeral, one median, and one sutural; markings which, if constant, should readily distinguish it from all others of the genus. It will be noticed, however, that under Variety C of *triangularis* a specimen is commented upon whose left side agrees with the description of *fuscocinereus*. The elytra are without glabrous patches, but a space behind each shoulder and the tips of the elytra are darker at the positions where, in *triangularis*, the derm is glabrous, but the clothing there is almost, or quite, as dense as elsewhere. On the elytra, except at the dark patches, the pubescence, to the naked eye, appears to be in numerous fine lines, this being due to very feeble elevations; no part of the prothorax is distinctly glabrous, and the oblique whitish lines of pubescence are not very conspicuous. The tarsi, for the genus, are comparatively short.

On the type male the eleventh joint of antennae is narrowed towards the apex, but the narrower portion has its outline continuous with the basal portion, and the false suture scarcely traceable. On a female in Mr. French's Collection the apical portion is conspicuously marked off from the basal portion by a notch, and the false suture is fairly distinct; but on a second male the right antenna (the left is unfortunately broken) is quite distinctly twelve-jointed, the twelfth joint being about one-third the length of the eleventh. ⁽²⁷⁾

URACANTHUS FUSCUS, n. sp.

Pl. xxxii., fig. 7.

♂. Dark brown. Densely clothed with short stramineous pubescence; middle femora with conspicuously dense clothing along under-surface, the hind ones less densely clothed.

Head with median line narrow, base finely granulate, clypeal suture rather deep and semi-circular, muzzle rather short. Antennae just passing elytra, fourth to tenth joints produced on one side at apex and rather flat, eleventh joint about one-third longer than tenth. *Prothorax* distinctly longer than wide, sides bisinuate, disc irregularly multicorugate, with a small node on each side of middle. *Elytra* not much wider than prothorax, moderately narrowed from

(27) On the males of *triangularis* the false suture is usually fairly conspicuous, and on two specimens in the Museum the antennae are distinctly twelve-jointed; on specimens of many other species also the false suture is sometimes very distinct.

shoulders to basal third and then parallel-sided almost to apex, suture spinose, a small notch between it and middle of apex, which is rounded; elevated lines scarcely visibly indicated; with very small punctures, but a few of moderate size behind shoulders. Length (σ , ♀), 15-24 mm.

Hab.—South Australia (old collection, Macleay Museum and Rev. A. P. Burgess), Tarcoola (C. French). Type, I. 5698.

Structurally close to *simulans*, but darker, prothorax more uniformly clothed, elytra with subhumeral markings but vaguely indicated (not at all on some specimens) and more or less clothed, and general clothing of elytra with a fine multi-lineate appearance (instead of uniform). The elytra are slightly darker near the shoulders and at the tips than elsewhere; two very feeble oblique lines of paler clothing may be traced on the prothorax of several of the specimens. The six specimens before me are all males, but their antennae vary slightly in length and thickness. The specimens from the old collection have the derm entirely of a rather pale-castaneous, with the clothing uniformly whitish, but they were long exposed to light.

URACANTHUS DISCICOLLIS, n. sp.

Pl. xxxii., figs. 8 and 9.

σ . Reddish-brown, some parts darker. Densely but irregularly clothed with whitish pubescence; all femora very densely clothed along middle of under-surface.

Head with median line narrow, deep, and abruptly terminated, base densely granulate-punctate; clypeus convex, rounded posteriorly, subtuberculate on each side in front, suture deep and rather wide. Antennae passing elytra, joints rather thin and subcylindrical, but fifth to tenth feebly produced on one side at apex, eleventh about one-third longer than tenth. *Prothorax* distinctly longer than wide, sides subangular in middle, transversely corrugated at apex, and somewhat uneven towards sides, glabrous portion smooth and with a few small punctures. *Elytra* narrow, apices rounded with suture feebly produced, with several very feebly elevated lines; with small dense punctures about base, becoming still smaller posteriorly. Length (σ , ♀), 11-24 mm.

♀ . Differs in having shorter antennae, sides of prothorax less angulate in middle, elytra more parallel-sided, and legs shorter, with femora much less densely clothed along under-surface.

Hab.—Western Australia: Albany (R. Helms); South Australia (Rev. A. P. Burgess and Blackburn's Collection), Mount Lofty (S. H. Curnow), Karoonda to Peebinga (G. E.

H. Wright), Kangaroo Island (J. G. O. Tepper); Victoria: Inglewood, on *Melaleuca* sp. (D. Best); (?) New South Wales (H. J. Carter). Type, I. 5696.

In general appearance somewhat like *bivittatus* and *marginellus*, but tips of elytra evenly rounded, and with the suture very feebly produced (scarcely spinose). Of the seventeen specimens before me the tips are never emarginate, but they vary from a form in which each is distinctly rounded (fig. 9) to one in which the suture is slightly produced (fig. 8). The clothing is also different to the usual form of *bivittatus*, whose prothoracic vittae are not continuous to apex. The scutellum and suture are usually darker (sometimes almost black) than the adjacent parts. There are four wide stripes of pubescence along the prothorax: one on each side of middle and one along each side, the intervening spaces are highly polished and almost (or quite) glabrous; the median glabrous space is usually, but not always, conspicuously dilated towards the base, the dilated space being almost oval in outline; on ten specimens it is non-corrugated and with but a few small punctures, and the base is almost without corrugations, but on several specimens there are some distinct ones there, but the surface gradually changes till it is almost entirely irregularly corrugated; the disc of the Albany specimen might almost be regarded as vermiculate, with a short but distinct median line. The elytra appear to have three brown lines from base to apex: one sutural (common to both) and one near each side, but these lines are really due to their covering pubescence being much sparser than elsewhere. The false suture of the eleventh joint of antennae is rather distinct on some specimens and scarcely traceable on others. The size is very variable.

URACANTHUS PERTENUIS, n. sp.

Pl. xxxii., figs. 10 and 11.

♂. Piceo-castaneous. Irregularly clothed with whitish pubescence.

Head with median line very narrow, base densely granulate-punctate; clypeus subtriangular, with a few small punctures, suture deep and rather wide. Antennae very thin, almost extending to the tip of elytra, fifth to tenth joints triangularly produced on one side at apex, eleventh about one-fourth longer than tenth. *Prothorax* much longer than wide, base conspicuously wider than apex, sides feebly bisinuate; conspicuously multi-corrugate, but somewhat irregular about middle. *Elytra* at base not much wider than prothorax, sides regularly decreasing in width to apex, where each is strongly emarginate and acutely bispinose: densely

and minutely punctate. *Legs* unusually thin; basal joint of hind tarsi almost as long as the rest combined. Length (♂, ♀), 14-21 mm.

♀. Differs in having somewhat shorter antennae, with the fifth to tenth joints less produced on one side at apex, and shorter legs with thinner tarsi.

Hab. — Australia (Blackburn's Collection); Western Australia (— Unbehaun); South Australia: Goolwa (old collection); Victoria: Melbourne, on *Loranthus* sp. and *Acacia armata* (D. Best); Tasmania: Hobart (A. M. Lea). Type, I. 5488.

A very thin species, at first glance somewhat suggestive of *Stephanops*, but with the muzzle of normal length. The clothing of the prothorax is somewhat as on *discicollis*, but the tips of the elytra are utterly different, and, in fact, the species is not very close to any other in the Museum. On the head the pubescence is dense between the eyes; on the prothorax it is condensed into four conspicuous vittae, with the intervening spaces polished and almost glabrous; on the elytra the pubescence is dense at the base on the sutural half for a short distance, but is narrowly continued along the suture, on each side the dense pubescence is rather narrow, but is somewhat dilated at about the basal third; the rest of the elytra is very sparsely clothed; as a result, to the naked eye, the elytra appear to be conspicuously brown, with three narrow whitish lines; on the under-surface the white pubescence is much denser at the sides of the sterna than elsewhere. The prothorax is about twice as long as its apical width. The elytra (except for the suture and margins) are without elevated lines; their tips are unusually acutely armed, but the sutural spine varies somewhat; the outer one, however, appears to be always long and acute. The males are without sexual adornment of the femora, but in addition to the differences noted above their antennae are clothed with a fringe of pubescence projecting downwards (the fringe is very fine, but is quite distinct in a good light); on the female this is represented by a few sparse setae only.

URACANTHUS PARVUS, n. sp.

Pl. xxxii., fig. 12.

♂. Piceous. Rather sparsely clothed with whitish pubescence.

Head with a very narrow median line, base densely granulate-punctate; clypeus semi-circularly rounded, with the suture deep. Antennae thin and distinctly passing elytra, fourth to tenth joints triangularly produced on one side at

apex, eleventh about one-third longer than tenth. *Prothorax* distinctly longer than wide, base not much wider than apex, sides feebly dilated slightly nearer base than apex, with dense corrugations, somewhat irregular, across middle. *Elytra* slightly wider than prothorax, sides feebly decreasing in width to middle, thence parallel-sided to apex, where each is semi-circularly notched and rather acutely bispinose. *Legs* very thin, tibiae somewhat curved. Length, 11 mm.

Hab.—Western Australia (W. du Boulay). Type (unique), I. 5703.

The type is the smallest specimen of the genus I have seen. From the preceding species it is distinguished (apart from size) by the very different clothing (the antennae, however, are very similarly fringed), prothorax wider in front, with the sides more rounded, more conspicuously multi-corrugate, and by the outer spine of each elytron smaller than the inner one. The clothing is moderately dense between the eyes, about the middle on each side of elytra, and on each side from apex of prosternum to apex of metasternum; on the base of elytra, about the middle, it is not quite so dense as on part of the sides, but rather denser than on the adjacent parts; the disc of the pronotum is non-vittate. The femora are without sexual adornment. The false suture of the eleventh joint of antennae is very distinct.

URACANTHUS TROPICUS, n. sp.

Pl. xxxii., fig. 13.

Piceo-castaneous, some parts paler. Rather densely clothed with stramineous pubescence, becoming whitish on antennae, under-surface, and legs.

Head with median line deep; clypeus equilaterally triangular, punctures rather small, suture deep. Antennae extending to about fourth segment of abdomen, fourth to tenth joints feebly produced on one side at apex, eleventh very little longer than tenth. *Prothorax* about twice as long as the apical width, which is but little less than that of the base, sides moderately rounded in middle; middle of disc smooth and with a few small punctures, base, apex, and sides irregularly corrugated. *Elytra* not much wider than prothorax at base, very feebly diminishing in width to apex, where each is strongly emarginate and acutely bispinose; with small punctures and some large (but not very large) ones towards base; with remnants of vaguely elevated lines. Length, 15-16 mm.

Hab.—Northern Queensland (Blackburn's Collection). Type, I. 5697.

A small narrow species, which differs from *parallelus* in being narrower, but elytra at base proportionately wider than base of prothorax, and apical spikes more acute, prothorax more conspicuously corrugated and with sparser clothing. The clothing on the disc of the prothorax is scarcely evenly distributed, but is not vittate; on each elytron there is a narrow glabrous space from the shoulder to about the basal third or half, the pubescence outside of this space being paler than that towards the suture. The middle femora of one specimen are rather more densely clothed along the middle than on the other, its front tibiae are slightly wider, and the antennae are slightly longer, these differences probably being sexual.

URACANTHUS PARALLELUS, n. sp.

Pl. xxxii., fig. 14.

♂. Rather dark-castaneous, elytra somewhat paler. Densely clothed with stramineous pubescence; middle femora very densely clothed along middle of under-surface.

Head with median line narrow and terminated some distance from base, where each is granulate-punctate; clypeus subtriangular, with irregular punctures, suture deep and rather wide. Antennae thin, not extending to apex of elytra, fifth to tenth joints feebly produced on one side at apex, eleventh very little longer than tenth. *Prothorax* much longer than wide, base not much wider than apex, sides gently rounded in middle; near base transversely corrugated. *Elytra* very little wider than prothorax, almost parallel-sided to apex, where each is semi-circularly emarginate and acutely bispinose, each with remnants of three feeble elevations; with dense and minute punctures and some of larger size (but not very large) about basal third. Length, 18 mm.

Hab.—Queensland: Cooktown. Type (unique), in National Museum (from C. French).

In general appearance very close to *froggatti*, but prothorax more densely clothed, without visible transverse corrugations except about base, elytra even more parallel-sided, the tips conspicuously emarginate, bispinose, and with clothing slightly sparser than elsewhere, the derm just before the tips not depressed, but evenly convex with the adjacent parts. To the naked eye the type appears to be parallel-sided throughout. The clothing on the upper-surface is almost evenly distributed, the only distinctly glabrous parts being a small spot in the middle of the pronotum and a small spot on each shoulder (the latter possibly due to abrasion). From some directions the tenth joint of antennae appears to be slightly longer than the eleventh.

URACANTHUS LATEROALBUS, n. sp.

Pl. xxxii., fig. 15.

♂. Of a rather dark castaneous. Densely clothed with stramineous and white pubescence.

Head with median line narrow, deep, and terminated near base, the latter densely granulate-punctate; muzzle shorter than usual; clypeus densely punctate, suture deep, semi-circular and rather wide. Antennae moderately long, fourth to tenth joints produced on one side at apex. *Prothorax* about one-fourth longer than wide, sides moderately rounded in middle; densely and strongly corrugated, but irregular about middle. *Elytra* moderately robust, their median half almost parallel-sided, each notched at apex, with the suture strongly dentate and the outer edge margining the notch subtriangular; each with several very feeble elevations or remnants of same; with very dense small punctures. *Legs* comparatively stout. Length, 29 mm.

Hab.—Western Australia: Swan River. Type (unique), I. 5695.

A comparatively robust species, with stouter antennae than usual, the antennae, however, are damaged, but ten joints remaining on one side and four on the other; possibly examination of a specimen with complete antennae would indicate that it should be referred to *Scolecobrotus*. The pubescence on the head is somewhat ochreous and denser between the eyes than elsewhere; on the prothorax it is nowhere vittate in character, but is darker on the disc than at the base, apex, and sides; on the scutellum, and on the elytra for a narrow space along the suture, the pubescence is whitish, and on each side there is a conspicuous marginal snowy stripe throughout; from the shoulder to about the basal third the stramineous pubescence is sparser than elsewhere. so that, to the naked eye, there appears a short subglabrous stripe; the pubescence on the under-surface and legs is mostly white.

The four hind femora are densely clothed with somewhat ochreous pubescence along the under-surface, and along the middle of each there is a brownish glue-like substance; it is not accidental, as it is alike on the four femora, and I have seen a similar substance, or traces of it, on the males of several other species; it is probably a secretion used for sexual attraction.

URACANTHUS ALBATUS, n. sp.

Pl. xxxii., fig. 16.

♂. Reddish-castaneous. Densely clothed with white pubescence; four hind femora with very dense subochreous

pubescence along middle of under-surface; three basal segments of abdomen each with a conspicuous medio-apical spot of moderately long subochreous hairs.

Head with a narrow median line somewhat dilated and abruptly terminated near base; clypeus with some large punctures and very minute ones, suture semi-circular and partially concealed by pubescence. Antennae extending to or slightly passing apex of elytra, fourth and fifth joints slightly, sixth to tenth acutely produced on one side at apex, eleventh joint about one-fourth longer than tenth. *Prothorax* about twice as long as the apical width, which is considerably less than that of the base, sides subangularly produced in middle, strongly transversely corrugated, but irregular about middle. *Elytra* about one-fourth wider than prothorax, feebly diminishing in width to apex, where each is strongly emarginate and acutely bispinose; basal third with dense and coarse punctures, becoming much smaller posteriorly; each with three feeble elevations, of which the outer one is rather short and scarcely traceable. Length (♂, ♀), 14-25 mm.

♀. Differs in having shorter antennae and legs, femora not densely clothed along under-surface (although more densely than is usual with females of the genus), and abdomen without tufts on the three basal segments.

Hab.—Western Australia: Kellerberrin (C. French); South Australia: Parachilna (Field Naturalists' Expedition); Victoria: Mallee and Grampians (National Museum, from C. French), Dimboola, and Bacchus Marsh, on *Acacia* sp. (D. Best). Type, I. 5492.

Fairly close to *strigosus* (whose male has very similar abdominal clothing), but elytral pubescence more uniform, prothorax distinctly shorter, and apical spines of elytra much more acute. The pubescence on the head and sides of sterna is denser than elsewhere; on the elytra, to the naked eye, it has a feebly lineate appearance, owing to the feebly elevated lines; on the prothorax it varies in density and disposition, on some specimens being almost uniformly distributed, with but a very small medio-basal glabrous spot, on others the spot is extended to appear as a narrow glabrous stripe; but on about half of the specimens before me the prothorax has four conspicuous vittae of pubescence, with the intervening spaces shining and almost glabrous. On the specimen from Kellerberrin most of the elytral pubescence is stramineous: two small Victorian specimens have the elytral clothing decidedly sparse. The false suture of the eleventh joint is so distinct on some specimens that their antennae appear to be almost twelve-jointed.

URACANTHUS LORANTHI, n. sp.

Pl. xxxii., fig. 17.

♂. Reddish-castaneous. Irregularly clothed.

Head with median line narrow and abruptly terminated before base; clypeus with very dense punctures, its suture semi-circular. Antennae distinctly passing elytra, fifth to tenth joints rather lightly produced on one side at apex, five apical joints compressed, eleventh very little longer than tenth. *Prothorax* about twice as long as the apical width, which is very little less than that of the base, sides sub-angularly produced in middle; surface irregularly vermiculate (in places transversely corrugate). *Elytra* not much wider than prothorax, decreasing in width to basal third, thence parallel-sided almost to apex, where each is rather lightly emarginate; basal third with dense and rather coarse punctures, becoming much smaller to middle, thence to apex shagreened; each with three feeble elevations. Length (♂, ♀), 14-18 mm.

♀. Differs in having decidedly shorter antennae, slightly shorter legs, and somewhat wider prothorax.

Hab.—Victoria: Melbourne, on *Loranthus* sp. (National Museum and D. Best). Type in National Museum; co-type, l. 5693, in South Australian Museum.

At first glance somewhat like *acutus*, but elytra with very different tips; each of these is distinctly emarginate, but the sides of the emargination vary from lightly spinose to completely unarmed. The head is moderately clothed with stramineous pubescence, the prothorax (including the sides) has four distinct vittae of similar pubescence, and along the middle a rather wide, loosely-compacted one (on some specimens, including the type male, appearing as two narrow vittae, or six in all); on the elytra (except about the base, where it is rather more distinct) the clothing is very short and inconspicuous; on the under-surface and legs the clothing is moderately dense. The clothing of the under-surface of the four hind femora is somewhat denser on the male than on the female, but is not conspicuously erect or suberect as on many males of the genus; the sexes, however, may be readily distinguished by the antennae, these passing the elytra in the male and not extending to their tips in the female.

URACANTHUS SUTURALIS, n. sp.

Pl. xxxii., fig. 18.

♂. Black, in places obscurely diluted with red. With white pubescence; under-surface of four hind femora densely clothed with moderately long ochreous pubescence.

Head with median line very narrow; clypeus with very dense punctures of irregular sizes, suture semi-circular, both suture and punctures partially concealed by clothing. Antennae distinctly passing apex of elytra, fourth to tenth produced on one side of apex, eleventh about one-third longer than tenth. *Prothorax* about twice as long as the apical width, which is much less than that of the base, sides angularly produced in middle, surface irregular across middle, and more or less corrugated elsewhere. *Elytra* distinctly wider than prothorax, parallel-sided from basal third to near apex, where each is evenly rounded, with the suture strongly spinose; with subgeminat rows of moderate-sized punctures, irregular towards base and very small and not geminate posteriorly; each with three feebly-elevated lines and traces of others. *Legs* rather long and thin. Length, 22 mm.

Hab.—South Australia: Murat Bay (E. A. King). Type (unique), I. 5692.

An almost black species, but with conspicuously white clothing; on the elytra the pubescence appears to be in regular fine lines, with the margins more densely and evenly clothed (but the basal half of the elytra of the type is much abraded); on the prothorax there is a conspicuous glabrous stripe on each side, and some glabrous spots on the disc. The elytra have the tips evenly rounded, but the strongly-spinose suture readily distinguishes from *strigosus*. The eleventh joint of antennae, about one-third from apex, appears to have a fine suture, slightly notched at its upper edge, indicating an approach to the twelfth joint of *Scolecobrotus* more distinctly than on most species of the genus.

URACANTHUS LONGICORNIS, n. sp.

Pl. xxxii., figs. 19 to 21.

♂. Bright reddish-castaneous, prothorax and scutellum somewhat darker. Densely clothed with white pubescence; hind femora shallowly grooved along under-surface, with conspicuous clothing (partly ochreous) filling the groove of each.

Head with median line deep and abruptly terminated near base, which is densely granulate-punctate; clypeus with some large punctures at sides, small and dense elsewhere, suture deep, wide, and semi-circular. Antennae with at least two joints passing elytra, fourth to tenth joints triangularly produced on one side at apex, eleventh about one-fourth longer than tenth. *Prothorax* not much longer than greatest width, sides gently incurved between base and middle, and then strongly narrowed to apex, which is not much more than half the width of base; strongly transversely corrugated,

but somewhat irregular across middle. *Elytra* not much wider than prothorax, moderately narrowed to basal third, and then parallel-sided to near apex, suture strongly spinose; about basal third with dense and rather coarse punctures, becoming much smaller from about the middle; each with two or three feebly-elevated lines. Length (σ , Q), 12-22 mm.

Q . Differs in having shorter antennae and legs, longer and more parallel-sided elytra, wider abdomen, and hind femora with much shorter clothing along under-surface.

Hab.—Northern Queensland (Blackburn's Collection and National Museum, from C. French). Endeavour River (C. French), Cairns (E. Allen). Type, I. 5704.

One of the specimens in the National Museum was labelled by Mr. Blackburn as near *acutus*; from that species, however, it differs in having the prothorax shorter, wider at the base, and much less parallel-sided, with the tips of elytra very different; each elytron has the suture strongly acute, with the space near it either very feebly notched (fig. 19) or evenly rounded (fig. 21), but on the only female before me the sutural spine is rather small and the notch distinct (fig. 20); her antennae (unfortunately broken) are evidently considerably shorter than those of the male, with the serrations less pronounced. In some respects it appears to approach *Aposites*. The clothing on the prothorax, scutellum, extreme base, and basal sides of elytra has a rather loose woolly appearance, on the rest of the elytra it is very short and depressed; on some specimens, to the naked eye, a narrow marginal white stripe may be traced from the base to the apex.

One of the specimens in the National Museum is labelled as from South Australia, but probably in error.

URACANTHUS TRIANGULARIS, Hope.

Typical form. Each elytron with a conspicuous glabrous subtriangular patch behind the shoulder, the patch margined with denser clothing (appearing like a conspicuous irregular white line) than the adjacent parts; apex also conspicuously glabrous and acutely bispinose.

Var. A. Apex of elytra not glabrous, but slightly darker than the adjacent parts, subtriangular basal patch with clothing bounding it no denser or paler than elsewhere; tips acutely bispinose. Length, 27-31 mm. This variety is distinguishable from some forms of *simulans* only by the acutely bispinose apex of each elytron. It occurs in New South Wales and Victoria (Mr. D. Best reared one specimen of it from a species of *Lomatia*).

Var. B. Apex of elytra not glabrous, and not, or scarcely, darker than the adjacent parts; subhumeral patch on each elytron rather shorter than on typical form, partially clothed towards the base and conspicuously bordered (internally and posteriorly) with paler clothing. Length, 18-29 mm. This form occurs from Victoria to Western Australia, and is fairly common in the drier parts of South Australia. The size of the subhumeral patch varies, and when long the variety is only distinguished from the typical form by the non-glabrous apices. The length and acuteness of the outer spine varies, so that on some specimens it is but little more acute than on *simulans*, from which, in fact, it is not always easy to distinguish specimens of the variety.

Var. C. Subhumeral patches with margining clothing not conspicuously paler than elsewhere, apex of each elytron acutely bispinose and not glabrous. Length, 21-24 mm. This form has a similar range to Var. B, and is distinguished from it only by the clothing at sides of subhumeral patches.

A specimen, from Onslow, in Mr. French's collection, might be referred to this variety; it has the subhumeral patch on the left elytron (on the right it is different, apparently owing to abrasion) partially clothed, so that it appears to be in three irregular parts, one humeral, one sutural, and the other median. But practically, judging from the description, the only distinguishing feature of *fuscocinereus* was a basal patch similarly divided.

URACANTHUS FUSCOCINEREUS, White.

The original description of this species is insufficient for its positive identification, and it was possibly founded upon one of the numerous varieties of *triangularis*. Its *habitat* was given as "Australia," not New South Wales, as in Masters' Catalogue.

URACANTHUS SIMULANS, Pasc.

Pl. xxxii. fig. 22.

A specimen from the Blackburn Collection, labelled as *simulans*, is 15 lines in length, another from Ouldea is 14, the smallest in the Museum (from Beverley) is but 8: but the average is much the same as that of the types (10-11 lines).

There are several closely-allied species from which it may be distinguished by each elytron acutely spinose at the sutural apex and not elsewhere, and clothing immediately behind glabrous elytral patches not denser than elsewhere. On the

disc of the prothorax the transverse corrugations are sometimes scarcely or not at all traceable across the middle; but on other specimens they are quite as strong there as elsewhere.

Hab.—South Australia: Parachilna, Renmark, Ouldea; Western Australia: Beverley, Mullewa, Geraldton.

URACANTHUS STRIGOSUS, Pasc.

Pl. xxxii., figs. 23 to 25.

According to Pascoe, readily distinguished by its fulvous-grey hairy stripes, with naked intervals. A specimen from Victoria (the type was from New South Wales), labelled by Blackburn as *strigosus*, has four hairy lines on each elytron, with the intervals subglabrous; on the prothorax also the clothing has a sublineate appearance. A specimen from Birchip has the lineate appearance much less defined, the elytral clothing being almost uniform, except that on the extreme margins it is denser; but on the prothorax three almost glabrous lines are very conspicuous. A specimen, taken from a wattle tree at Ropes Creek, differs in being narrower and smaller (8 lines), with the prothorax somewhat narrower, with the lateral nodes more prominent, and with the three glabrous lines very conspicuously occupying most of the surface, and elytra with but two conspicuous hairy lines, although the others are traceable; its four hind femora are very densely clothed on the under-surface, this being a masculine feature; each of the three basal segments of its abdomen has a small medio-apical spot of conspicuously different clothing to the adjacent parts (this also being a male character). The apical spines (fig. 24) are more acute than usual. Another specimen, from Tarcoola, belonging to Mr. French, agrees with the Ropes Creek one, except that it is slightly larger and with the apical spines of elytra (fig. 25) smaller and closer together.

URACANTHUS MARGINELLUS, Hope.

Pl. xxxii., figs. 26 and 27.

A specimen from the Blackburn Collection, and bearing his name label as *marginellus*, may possibly be that species; but the elytra are obliquely emarginate at apex, with the ends of the emarginations rounded off and not at all spinose (fig. 26); it was without locality label. Some other specimens from South Australia agree with it, others have the emargination even less pronounced, and on one there is a short inner spine (fig. 27). It is not always easy to distinguish this form from *bivittatus*, whose outer elytral spines (figs. 29 and 30) are often very blunt.

URACANTHUS PALLENS, Hope.

Pl. xxxii., fig. 28.

The original description of this species (excluding size, which in the genus is very variable) would fit several species, but as it was from Tasmania it is probable that a specimen from the Blackburn Collection (bearing a label that is similar to that of many Tasmanian specimens in his collection) may belong to it. This specimen is close to *simulans*, but the spines at the tips of its elytra (fig. 28) are somewhat different to those (fig. 22) of that species.

URACANTHUS BIVITTATUS, Newm.

Pl. xxxii., figs. 29 and 30.

A fairly common species in New South Wales and South Australia. On some specimens the lines of clothing on the pronotum are continuous to the apex and closer together than on the typical form; but this may be sexual.

URACANTHUS FROGGATTI, Blackb.

This species was described as having the apex "of elytra truncate and devoid of spines," but not correctly so, as two co-types in the Museum have the tips of elytra densely clothed with snowy pubescence, concealing their real sculpture; the tips themselves are emarginate, with the sides of the emargination lightly spinose, or at least acute; the elytra just before the tips are each conspicuously semi-circularly depressed.

Appended is a table of the species known to me:—

- | | | |
|---|--------|-------------------------|
| A. Elytra conspicuously glabrous at apex and not behind shoulders | ... .. | <i>insignis</i> |
| AA. Elytra conspicuously glabrous at apex and behind shoulders | ... .. | <i>triangularis</i> |
| AAA. Elytra with post-humeral (not longitudinal) markings only. | | [(typical)] |
| a. Each elytron unispinose. | | |
| b. Post-humeral markings glabrous (at least in part) | ... .. | <i>simulans</i> |
| bb. Post-humeral markings not glabrous | ... .. | <i>fuscus</i> (in part) |
| aa. Each elytron bispinose. | | |
| c. With glabrous lines from post-humeral markings | | <i>glabrilineatus</i> |
| cc. Without such lines | | |
| d. Post-humeral markings not glabrous | ... .. | <i>dubius</i> |
| dd. Post-humeral markings glabrous. | | |
| e. Spines comparatively close together | ... .. | <i>pallens</i> (?) |
| ee. Spines distant | ... .. | <i>triangularis</i> |
| AAAA. Elytra with longitudinal markings or uniformly clothed. | | [(varieties)] |
| B. Prothorax not distinctly longer than basal width | | <i>gigas</i> |
| BB. Prothorax distinctly longer than wide. | | |
| C. Elytral clothing condensed into numerous small fascicles | ... .. | <i>cryptophagus</i> |

CC. Elytral clothing not so condensed.

D. Each elytron produced only in middle of apex *acutus*

DD. Tips of elytra not as in D.

E. Elytra unarmed.

f. Pronotum binodose in middle ... *inermis*

ff. Pronotum not binodose in middle ... *disticollis* (in

EE. Elytra armed, or at least distinctly emarginate. [part]

F. Prothorax without transverse corrugations ... *maleficus*

FF. Prothorax with transverse corrugations.

G. A conspicuous transverse depression near tip of each elytron ... *froggatti*

GG. Without such depressions.

H. Tips of elytra not notched, but suture acutely produced.

g. Three basal segments of abdomen of male each with a fascicle ... *ventralis*

gg. Abdomen non-fasciculate.

h. Derm black ... *suturalis*

hh. Derm not black. [part]

i. Prothorax vittate ... *discicollis* (in

ii. Prothorax non-vittate ... *longicornis* (in [part])

HH. Tip of each elytron notched, and usually bispinose.

I. With large punctures towards base of elytra.

j. Three basal segments of abdomen of male each with a fascicle.

k. Elytral clothing conspicuously vittate ... *strigosus*

kk. Elytral clothing uniform ... *albatus*

jj. Abdomen non-fasciculate.

l. Base of prothorax very little wider than apex ... *loranthi*

ll. Base much wider than apex ... *longicornis* (in [part])

II. With no large punctures on elytra.

J. Prothoracic clothing more or less vittate.

m. Outside of apical notch very acutely armed ... *pertenuis*

mm. Outside less acutely armed than suture ... *bivittatus*

mmm. Outside rounded ... *marginellus*

JJ. Prothoracic clothing non-vittate.

K. Prothoracic corrugations not continued across middle on whole of basal half.

n. Margins of elytra with paler clothing than disc ... *tropicus*

nn. Margins with clothing as on disc ... *parallelus*

KK. Prothoracic corrugations continued across middle of basal half.

- L. Margins of elytra with conspicuous white clothing throughout ... *lateroalbus*
 LL. Margins not as in L.
 M. Derm black ... *ater*
 MM. Derm not black.
 N. Each elytron acutely bispinose at apex ... *parvus*
 NN. Suture only acutely spinose.
 O. Elytral clothing with a sublineate appearance ... *fuscus* (in part)
 OO. Elytral clothing not at all lineate ... *corrugicollis*

SCOLECOBROTUS.

This genus was originally distinguished from *Uracanthus* by its twelve-jointed antennae, many of the joints being multi-dentate in the male; by the addition of *simplex*, however, the late Rev. T. Blackburn reduced the distinction simply to an arithmetical one.

SCOLECOBROTUS WESTWOODI, Hope.

A female from the Crawford Collection has a conspicuous obtuse tubercle on each elytron near the base, but not being symmetrical they are probably accidental. The species occurs in Victoria, Tasmania, South and Western Australia.

SCOLECOBROTUS VARIEGATUS, Blackb.

Typical specimens of this form are readily distinguished from typical ones of the preceding species, by the more rugosely sculptured base of elytra, the rugose portion suddenly becoming clouded with black or dark-brown, and glabrous; from the black subbasal patches a slight infuscation is usually continued along the sides, almost or quite to the apex. But evidently the late Rev. T. Blackburn considered that these were insufficient distinguishing features, as there are specimens from Eyre Sand Patch and Birchip (obtained long after the description of *variegatus* was published) of specimens of that form labelled by him as *westwoodi*, although he does not appear to have published anything to that effect. At any rate, even if only to be considered as a variety, it is one well deserving a name. It occurs in New South Wales, Victoria, and South Australia.

A male labelled as from the Katherine River (Northern Territory) in Mr. French's collection has the elytral punctures about the base quite as coarse as on *variegatus*, but the elytra are nowhere stained with brown.

SCOLECOBROTUS UNIFORMIS, n. sp.

♂. Dark piceous-brown, almost black. Densely clothed with short, depressed, ashen pubescence.

Head with median line narrow and deep, base finely granulate. Antennae not extending to apex of elytra, fifth to twelfth joints and part of fourth multi-granulate and somewhat serrate on lower-surface, twelfth about three-fourths the length of eleventh. *Prothorax* slightly longer than wide, sides bisinuate and nodose in middle, base considerably wider than apex, densely but irregularly transversely corrugated, and subnodose on each side of middle. *Elytra* about one-fourth wider than prothorax, sides feebly decreasing in width to apex, where each is widely emarginate and acutely bispinose; with very minute punctures and remnants of feeble elevations. Length (♂, ♀), 36-44 mm.

♀. Differs in being rather more robust and with shorter antennae, on which the granules and serrations are less distinct.

Hab.—South Australia: Ouldea (R. T. Maurice). Type, I. 5688.

A large, dark, uniformly-coloured and clothed species, of which five specimens were taken by the late Mr. Maurice. Although tabulated with *validus*, it is not close to that species, being much larger, darker, and with different clothing, first and twelfth joints of antennae longer, and the twelfth conspicuously separated from the eleventh. The serrations of the antennae are due to granules and not to numerous irregular teeth, as on *westwoodi* and *variegatus*. The hind femora of the male are not clothed with special pubescence.

SCOLECOBROTUS BIMACULATUS, n. sp.

Piceous-brown, in places almost black. Densely clothed with short ashen pubescence, on each elytron condensed about middle to form a large pale spot.

Head with a narrow median line: base finely granulate. Antennae thin, two apical joints passing elytra, joints after the third obtusely granulate, with lower edges very feebly serrated, twelfth about three-fourths the length of eleventh. *Prothorax* slightly longer than wide, sides rather strongly dilated in middle, strongly but irregularly transversely corrugated throughout, but subnodose on each side of middle. *Elytra* about one-fourth wider than prothorax, sides moderately decreasing in width to about middle, and then very feebly to apex, where each is rather widely emarginate and strongly bispinose; each with two feeble elevations, disappearing about base and towards the apex; between median

spots and base with dense and rather large punctures, elsewhere with very small ones. Length, 29-33 mm.

Hab.—Western Australia (W. du Boulay), Mullewa (Miss J. F. May), Kalgoorlie (C. French). Type, I. 5689.

A rather large dark species. To the naked eye, each elytron appears to have a large pale spot (slightly longer than the prothorax), but this is entirely due to the pubescence there, being more crowded and slightly paler than elsewhere. There are some long straggling hairs at sides of prothorax. The four specimens before me appear to be all males.

The species of the genus may be tabulated as follows:—

Most joints of antennae of male multidentate.

Elytra unicolorous *westwoodi*

Elytra bicolorous *variegatus*

No joint of antennae multidentate.

Apex of elytra unarmed *simplex*

Apex of each elytron bispinose.

Elytral clothing not uniform *bimaculatus*

Elytral clothing uniform.

Derm of elytra pale *validus*

Derm of elytra dark-brown *uniformis*

APOSITES.

This genus is certainly very close to *Neostenus*, as stated by Pascoe, but it is quite as close to *Uracanthus*. Lacordaire (VIII.—203) widely separated them on account of the middle cotyloid cavities being open at the sides in *Aposites* and closed in *Uracanthus*. They appear to me, however, to be open to very much the same degree in both genera. *Aposites* has the prothorax wider at the base than in most species of *Uracanthus*, and somewhat shorter elytra, more narrowed posteriorly; but it is not always easy to place some apparently connecting species.

APOSITES MACILENTUS, Pasc.

Four specimens (from South Australia and Victoria) before me appear to belong to this species; they are all males (the hind femora are densely clothed with yellowish pubescence along their under-surface), and have the suture spinose at apex and each of the four basal segments of abdomen with two glabrous spots on each side.

APOSITES NIGER, Blackb.

This species varies considerably in size, but is readily distinguished from the preceding species and from *lanaticollis* by each of the four basal segments of abdomen having but one glabrous spot on each side. It occurs at Eucla, Mullewa, Murchison. and Tennant Creek. .

BRACHOPSIS CONCOLOR, Saund.

The reference to the figure (omitted altogether from Masters' Catalogue) in the original description was erroneously given. It should have been pl. 1, fig. 4; not pl. iv., fig. 4.

EARINUS PURPUREUS, n. sp.

Purple; head, prothorax, and under-surface purplish-blue, tip of antennae reddish. Clothed with long straggling hairs, mostly blackish on upper-surface, mostly whitish on under-surface; elytra with short, sparse, whitish pubescence.

Head with dense and rather coarse punctures; median line well defined between antennae. Antennae thin, four basal joints with distinct punctures, third joint slightly longer than first and distinctly longer than fourth, eleventh slightly longer than tenth. *Prothorax* about as long as greatest width, sides subparallel on apical half, then rapidly increasing in width towards base, but near base abruptly narrowed, with the extreme base scarcely wider than apex; with dense and coarse punctures, but on disc with five small impunctate spaces. *Elytra* no wider than widest part of prothorax, sides rather strongly narrowed to middle, thence parallel-sided to near apex; with subgeminat rows of coarse punctures, becoming irregular posteriorly, the interspaces with minute punctures. *Legs* long and thin. Length, 10-11 mm.

Hab.—South Australia: Nuriootpa, Ardrossan (J. G. O. Tepper). Type, I. 5706.

Readily distinguished from all others of the genus by its entirely dark prothorax and elytra. The four basal joints of antennae are distinctly purple, the following joints are more or less black, but with the tip of the eleventh reddish. There are about eight rows of punctures on each elytron near the base and four or five about the middle, but only two extend to the apex. As the abdomen is without special clothing on two of the segments the typical specimens (two) are probably females.

EARINUS MINOR, n. sp.

Flavous; head between and behind eyes, clypeus, a large discal patch on prothorax, scutellum, mesosternum, most of metasternum, antennae, and most of legs black, parts of elytra and of abdomen rather deeply infuscated. Clothed with long straggling blackish and ashen hairs, elytra, in addition, with short, pale, sparse pubescence.

Head with dense and coarse punctures, becoming rather sparse on clypeus; median line well defined. Antennae long

and thin, four basal joints shining and with distinct punctures, third joint slightly longer than first and fifth, and much longer than fourth. *Prothorax* with sides triangularly dilated on median half; with irregularly distributed punctures varying from small to fairly large, but nowhere very dense. *Elytra* no wider than widest part of prothorax, sides rather lightly diminishing in width to middle; with dense and somewhat rugose punctures, becoming smaller posteriorly and sparser about base and on shoulders. *Legs* moderately long, with distinct punctures. Length, 7 mm.

Hab.—Northern Queensland (Blackburn's Collection). Type (unique), I. 5707.

The smallest described species of the genus, and allied to *pictus*, but elytra with very different markings. The large black patch on the pronotum is of irregular shape, but is triangularly notched in front and less conspicuously so behind; the infuscate parts of the elytra are the shoulders, apical sixth, and a large postmedian spot on each side vaguely extended towards the suture; on the under-surface there are three disconnected pale spots on the head, there is an infuscate streak from each of the front coxae, the basal half (or more) of each of the four basal segments of abdomen is deeply infuscated, the basal third of the femora is conspicuously flavous. As the abdomen is without special clothing on any of the segments the type is probably a female.

EARINUS MIMULUS, Pasc.

The typical form of this species has bifasciate elytra, but the abdomen varies from entirely dark (the base of the second segment obscurely diluted with red excepted) to the second, third, and fourth segments almost entirely red. The male has a large rounded patch on each of the third and fourth abdominal segments, very densely clothed with short depressed blackish pubescence, and with numerous long hairs.

Hab.—South Australia, Victoria, New South Wales, Queensland.

Var. UNIFASCIATUS, n. var.

Differs from the typical form in having but one elytral fascia, the apical one of the typical form being entirely absent. The second, third, and fourth abdominal segments vary from entirely red to more or less narrowly margined with black at their tips; on two specimens the red is extended to the apex of the basal segment. The sexes vary as those of the typical form.

Hab.—South Australia, Victoria.

EARINUS KREUSLERAE, Pasc.

On the males of this species the third and fourth abdominal segments are densely clothed in the middle with whitish, woolly-looking pubescence.

Hab.—South Australia, Western Australia.

EARINUS PICTUS, Pasc.

The abdominal clothing of the males of this species is very similar to that of the preceding species.

Following is a table of the described species of the genus:—

Prothorax entirely dark	...	...	...	...	<i>purpureus</i>
Prothorax entirely pale.					
Elytra pale about scutellum	...	...	...	...	<i>kreuslerae</i>
Elytra dark about scutellum.					
Elytra bifasciate	...	...	...	...	<i>mimulus</i> (typical)
Elytra unifasciate	...	...	...	...	var. <i>unifasciatus</i>
Prothorax pale, with black markings.					
Elytra entirely dark	...	...	...	...	<i>bimaculatus</i>
Elytra partly dark.					
Humeral markings continued to suture	...	...	...	...	<i>pictus</i>
Humeral markings isolated.					
Antennae with three joints pale at base	...	...	...	...	<i>humeralis</i>
Antennae entirely dark	...	...	...	...	<i>minor</i>

PORITHEA OBLIQUA, n. sp.

Reddish-brown, appendages somewhat paler; elytra with the apical fourth flavous, and each with a conspicuous oblique flavous fascia, commencing at or near the suture just before the middle, and ending on the side behind the middle. Clothed with very short pale pubescence; elytra with rather numerous hairs, and rather dense on antennae.

Head with small, dense, rugose punctures; clypeal suture foveate on each side; median line just traceable posteriorly, but distinct elsewhere. *Antennae* considerably longer than body in male, not much in female; spine on the third joint short, on the fourth and fifth very short. *Prothorax* slightly longer than wide, sides rounded and widest almost in exact middle, with an obtuse and rather short median elevation, and with four small discal tubercles; with dense, small, rugose punctures. *Elytra* distinctly wider than prothorax, feebly diminishing in width to apex, where each is obtusely rounded; with punctures of three kinds. *Femora* clavate. Length, $6\frac{1}{2}$ -12 mm.

Hab.—New South Wales: Dorriggo (W. Heron); Queensland: Mount Tambourine (R. Illidge and A. M. Lea). Type, I. 5490.

In general appearance fairly close to *plagiata*, but with apex of elytra pale and median markings reduced to a conspicuously oblique fascia on each, the two combined forming a wide reversed V. The markings are fairly constant, but the general colour varies from a rather bright rusty-red to dark (almost piceous) brown. The spine at the tip of the fifth antennal joint is so short as to be almost invisible. The four discal tubercles on the pronotum are placed, as it were, at the corners of an exact square. The elytral punctures are of three kinds—(1) moderately large ones, dense at the base but becoming smaller and sparser posteriorly; (2) some larger seriate ones, usually backed by small granules; (3) very dense and small ones throughout. The male differs from the female in having longer antennae and legs, with front tibiae moderately curved at the base and wider at the apex, and the prothorax slightly longer.

PORITHEA APICALIS, n. sp.

Reddish-brown, appendages bright reddish-castaneous, apical third of elytra flavous but partly infuscated. Moderately clothed with very short pale pubescence, on the under-surface somewhat sericeous in appearance; a few hairs on the elytra and sides of prothorax and numerous ones on the appendages and muzzle.

Head with very dense, small, rugose punctures; clypeal suture subfoveate on each side; median line fairly well defined, except posteriorly. Antennae thin, considerably passing elytra, finely granulate-punctate; spine at tip of third joint rather short, on the fourth and fifth much shorter. *Prothorax* considerably longer than wide, sides feebly rounded in middle, with a very feeble median elevation, and four feeble discal tubercles. *Elytra* not much but distinctly wider than widest part of prothorax, sides feebly diminishing in width to apex, where each is obtusely rounded; with three kinds of punctures. *Femora* clavate; front tibiae lightly curved at the base. Length, $9\frac{1}{2}$ mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type (unique), I. 5489.

The prothorax is narrower than in *plagiata*, and the elytral markings are very different. The apical two-thirds of the flavous apical portion are somewhat infuscated, so that in certain lights the elytra appear to have a narrow subapical, very pale fascia, bounded posteriorly by a somewhat longer and slightly darker one; the apical half of the femora is somewhat darker than the rest of the legs, and the abdomen is somewhat darker than the metasternum. The four prothoracic tubercles are placed, as it were, at the corners of a

somewhat irregular square, the two front ones being rather more apart than the two hind ones. The elytral punctures are much as on the preceding species, except that the larger subseriate ones are almost confined to the suture. The type appears to be a male.

PORITHEA PLAGIATA, Blackb.

The type of this species was from the Tweed River, and was described as having on the elytra "*maculis singulis later-alibus antemedianis magnis et fascia communi undulata ante-apicali sat lata testaceis.*" In the Blackburn Collection there were four specimens marked as belonging to the species, but not as co-types (the type is in the British Museum); they were all from Northern Queensland. There are other specimens before me from Dorrigo, in New South Wales, to the Endeavour River in Queensland, and these demonstrate that the elytral markings are variable; in general, however, the pale markings on each elytron consist of a subtriangular or very irregular median blotch, usually not touching the suture, but occasionally doing so, and containing towards the side a dark spot, but this spot may be so continued as to divide the blotch into two unequal spots; the sinuous apical fascia may occupy from a little more to a little less space than the derm behind it; or the pale markings may be so extended as to occupy most of the surface, when the darker parts appear as a subtriangular basal space (followed or not by a few small spots), a wide postmedian fascia, and a shorter apical one. The male (I took a pair *in cop.* in the Cairns district) is usually smaller than the female, with longer antennae, prothorax somewhat longer in proportion, and front tibiae more curved and wider at apex.

The species of the genus (excluding *intorta*, unknown to me as such) may be tabulated as follows:—

Pale portion of elytra confined to apical third	<i>apicalis</i>
Pale portion not so confined.	
Apex of elytra dark	<i>plagiata</i>
Apex of elytra pale.	
Pale apical portion connected with other	
pale portions	<i>parenthica</i>
Pale apical portion disconnected	<i>obliqua</i>

GASTROPHACODES, n. g.

Head moderately large. Eyes rather large, coarsely faceted, semi-circularly notched, upper portion much smaller than lower portion. Clypeus and labrum membranous. Mandibles short, strong, semi-circularly incised near apex. Antennae moderately long, inserted in front of ocular excisions, second joint very short, the following ones somewhat

flattened, and to the tenth feebly produced on one side at apex, all unarmed. Palpi small. *Prothorax* transverse, unarmed. *Elytra* almost parallel-sided to near apex. *Metasternum* with episterna wide and narrowed posteriorly. *Abdomen* considerably produced beyond the elytra, all the segments long. *Legs* moderately long; front coxae moderately separated, front coxal cavities open behind, obliquely produced at their sides; tibiae bispinose at apex, tarsi with claw-joints lightly dentate at base.

Excluding the abdomen, the general appearance of the remarkable insect described below is somewhat suggestive of *Phacodes*, near which genus it may be provisionally placed, despite the unarmed antennae (unarmed also in *Oebarina* and *Aesiotype*). The elytra do not nearly cover the abdomen, and this is due, not to their abbreviation (as in *Hesthesis*), but to the great development of the abdomen. I was under the impression that the first specimen seen (from Mullewa) was a female captured before full maturity, but Mr. Brown took numerous specimens, all of which have the abdomen considerably prolonged, and on the specimen figured an oedeagus is protruding. The upper-surface of the abdomen is margined on each side (as on most *Staphylinidae*).

GASTROPHACODES VENTRICOSUS, n. sp.

Pl. xxxii. fig. 4.

Black, parts of elytra, antennae, and legs obscurely reddish-brown. With very short and sparse setae, but with straggling hairs on sides of prothorax, on muzzle, and on antennae and legs.

Head with median line deep and irregular in middle, but scarcely traceable to base; with coarse and irregular punctures: lower face transversely sculptured. Antennae with second joint (excluding its socket piece) about one-fourth the length of third, third to seventh subequal in length, eighth to tenth slightly decreasing in length, eleventh distinctly longer than tenth. *Prothorax* about one-fourth wider than long, apex with a narrowly-impressed line across under-surface and sides, but scarcely traceable across middle, sides somewhat irregularly swollen about middle; with coarse, crowded, and irregular punctures, but leaving an impunctate median line on basal half (sometimes traceable to apex). *Scutellum* shagreened, about as wide as long. *Elytra* about as wide as widest part of prothorax, almost parallel-sided to near apex, where each is widely separately rounded; basal portion with coarse and rather crowded punctures, becoming much smaller and shallower posteriorly. *Under-surface* with punctures varying from coarse and irregular to sparse and

small, head between eyes coarsely vermiculate, medio-basal portion polished and almost impunctate. Abdomen polished, first segment (along middle) as long as hind femora, the three following slightly shorter, fifth slightly longer. Length, to apex of elytra, 22-34 mm.; of abdomen, 33-64 mm.

Hab.—Western Australia: Ankertell, Yalgoo (H. W. Brown), Mullewa (Miss J. F. May). Type, I. 5769.

The elytra are without distinct costae, but to the naked eye appear to have two feeble longitudinal elevations on each: the apical half is thinner than the basal half, and on several specimens appears to be almost membranous, an appearance heightened by irregular shrinkage. The male differs from the female in having the abdomen somewhat shorter and thinner and antennae and legs somewhat longer. On some specimens there is a small polished space on each side at the base of the prothorax.

CHRYSOMELIDAE.

EUCOLASPINUS, new name.

Eucolaspis, Lea, n. pr.

The name *Eucolaspis* was used by Dr. Sharp in 1886 (Tr. Dubl. Soc.), so that the above substitute is proposed for the name *Eucolaspis*, recently used in the *Eumolpides* (*ante*, 1915, p. 318).

Subfamily CHRYSOMELIDES.

The Australian genera of this subfamily may, for the present purpose, be regarded as belonging to two divisions—1. *Paropsis*, and the genera or subgenera proposed (usually on trivial grounds) at its expense. 2. All other genera. Whilst the species of *Paropsis* may usually be readily identified as such, there are members of other genera that superficially might easily be mistaken for same, but these may usually be distinguished by the claws, palpi, antennae, and elytral epipleurae. Whilst hoping later on to deal with *Paropsis*, for the present my task has been confined to the second division. Some of the genera of this division are very distinct and may be easily recognized, but the claws and palpi are so important that considerable manipulation of specimens is often necessary before they can be critically examined. In a previous paper ⁽²⁸⁾ I did not attach sufficient importance to these, with the result that several species of *Chrysomela* were referred to *Calomela*. ⁽²⁹⁾ Some of the

(28) Australasian Association for the Advancement of Science, 1902.

(29) Some species of *Chrysomela* so strongly resemble some of *Calomela* that even as *species* they are hard to distinguish from same.

genera have been proposed on very slight grounds, so that it is sometimes difficult to be sure as to which of several genera a new species should be referred. All the new species here described, however, may be placed generically by the appended table, which, as far as possible, is based on characters previously used by Baly. As regards the dentition of the claws, with most of the species whose claws are truly armed, if these can be seen at all clearly there is usually no difficulty in noting the armature, but where the claws are very feebly armed, or are unarmed, closer examination is necessary, and in such it is usually necessary to examine several claws, as with old, greasy or dirty specimens a small amount of dirt may easily cause a claw to appear armed when it is really simple.

- | | | | | |
|---|-----|-----|-----|-----------------------|
| A. Apical joints of antennae flattened and conspicuously produced outwardly | ... | ... | ... | <i>Johannica</i> |
| AA. Antennae not as in A. | | | | |
| B. Clypeus of male asymmetrical | ... | ... | ... | <i>Cyclonoda</i> |
| BB. Clypeus of male symmetrical. | | | | |
| C. Tip of abdomen multidentate | ... | ... | ... | <i>Ateratocerus</i> |
| CC. Tip of abdomen not dentate. | | | | |
| D. Claws simple. | | | | |
| a. Elytra tuberculate. | | | | |
| b. Tubercles large and few in number | ... | ... | ... | <i>Richmondia</i> |
| bb. Tubercles numerous and small | ... | ... | ... | <i>Strumatophyma</i> |
| aa. Elytra non-tuberculate. | | | | |
| c. Intercoxal process of prosternum bilobed at base. | | | | |
| d. Apical joint of maxillary palpi securiform | ... | ... | ... | <i>Chrysomela</i> |
| dd. Apical joint not securiform. | | | | |
| e. Of large size and elongate form | ... | ... | ... | <i>Aesernia</i> |
| ee. Much smaller and semiglobose | ... | ... | ... | <i>Chalcomela</i> |
| cc. Intercoxal process rounded or truncate at base. | | | | |
| f. Form elongate. | | | | |
| g. Elytra with post-humeral depressions | ... | ... | ... | <i>Lamprolina</i> |
| gg. Elytra without such | ... | ... | ... | <i>Ethomela</i> |
| ff. Form short and round | | | | |
| h. Elytral margins inflated near shoulders | ... | ... | ... | <i>Cyclomela</i> |
| hh. Elytral margins evenly rounded. | | | | |
| i. Elytral epipleurae conspicuously concave | ... | ... | ... | <i>Pseudoparopsis</i> |
| ii. Elytral epipleurae gently convex | ... | ... | ... | <i>Geomela</i> |
| DD. Claws not simple. | | | | |
| E. Sides of prothorax crenulate | ... | ... | ... | <i>Paralepta</i> |
| EE. Sides not crenulate. | | | | |
| F. Apical joints of maxillary palpi not securiform. | | | | |
| j. Middle of metasternum produced and overhanging base of prosternum | ... | ... | ... | <i>Grammicomela</i> |

- ii. Middle not so produced.
 k. Intercoxal process of prosternum
 very wide and flat *Rhaebomela*
 kk. Intercoxal process not as in k.
 l. Antennae moniliform *Phyllocharis*
 ll. Antennae subfiliform.
 m. Base of intercoxal process of
 prosternum decidedly below
 middle *Chalcolampra*
 mm. Base level or almost level
 with middle *Oomela*
 FF. Apical joint of maxillary palpi securi-
 form.
 G. Elytra epipleurae very wide, con-
 tinuing the lines of the upper-
 surface *Poropteromela*
 GG. Elytral epipleurae very different to
 those of G.
 H. Intercoxal process of prosternum
 not bilobed at base.
 n. Form elongate *Platymela*
 nn. Form short *Acacicola*
 HH. Intercoxal process bilobed at base.
 I. Elytral punctures nowhere seriate
 in arrangement *Clidonotus*
 II. Elytral punctures, at least in
 parts, seriate in arrangement
 J. Antennae filiform *Eulina*
 JJ. Antennae incrassate or sub-
 incrassate.
 K. Intercoxal process of pro-
 sternum not conspicu-
 ously elevated in front ... *Calomela*
 KK. Intercoxal process conspicu-
 ously elevated in
 front.
 L. Antennae comparatively
 short *Augomela*
 LL. Antennae comparatively { *Stethomela*
 long { *Aesernoides*

NOTES ON TABLE.

E. From diagnosis; genus not represented in Museum.

l and *ll*. The characters used by Baly in his table; not very satisfactory, but I know of none better. The species of *Phyllocharis* are mostly conspicuously marked and frequent shrubs; those of *Chalcolampra* are mostly more or less black and have terrestrial habits; many also have aborted wings.

L and LL. Very unsatisfactory. Baly regarded *Augomela* and *Stethomela* as subgenera of *Australica* (*Calomela*). The species of *Augomela* are all metallic; those of *Stethomela* and *Aesernoides* are usually less or not at all metallic, and frequently are partly red or with reddish markings; the only species hitherto referred to *Aesernoides* is a strikingly-distinct one, but its generic separation from *Stethomela* is dubious.

CHRYSOMELA JANSONI, Baly.

Calomela amethystina, Lea.

In describing *C. amethystina* I overlooked the fact that its claws are simple. It, therefore, belongs to *Chrysomela*, and appears to be a synonym of *C. jansonii*. A specimen from North-western Australia differs from the typical form in having the head entirely pale; another has a metallic blue tinge only on the basal half; both have the metasternum metallic-blue, but the rest of the under-surface is uniformly pale.

CHRYSOMELA FULVILABRIS, Germ.

This species also has simple claws, so should not have been referred to *Calomela*. Specimens were standing in Blackburn's Collection as *C. fulvilabris*, and one of these was named by Chapuis as *Caristea sapphiris* (Mast. Cat., Sp., No. 6711).

CHRYSOMELA VIRIDIPENNIS, Lea (formerly *Calomela*).

This species has also simple claws.

CHRYSOMELA INTERCOXALIS, n. sp.

Flavous, apical six joints of antennae black, the two or three preceding ones more or less infuscated.

Head with punctures varying from small to fairly large, and larger between eyes than elsewhere, with a feebly-impressed median line; clypeus with rather dense and small punctures, suture distinct. Antennae rather short and stout. *Prothorax* about thrice as wide as the median length, sides lightly bisinuate, front angles conspicuously produced, front margin rather strongly incurved to middle; near sides with coarse and rather dense punctures, much smaller and much sparser elsewhere. *Elytra* slightly wider than prothorax, but at extreme base no wider; with regular rows of not very large punctures, smaller on apical slope and larger behind shoulders than elsewhere, interstices with minute scattered punctures. Inter-coxal process of *prosternum* grooved and densely punctate along middle, base deeply notched. Length, 6-8 $\frac{1}{4}$ mm.

Hab.—Queensland: Cairns (Blackburn's Collection, from — Cowell, E. Allen). Type, I. 2566.

In general appearance strikingly close to *Calomela pallida*, but with the claws simple instead of conspicuously armed as on that species. A specimen from the Northern Territory (Blackburn's Collection, from J. J. Walker) apparently belongs to this species, but has antennae entirely pale.

This and the two following species, in general appearance and in structure, so closely resemble many of the pallid species of *Calomela*, differing (generically) only in the claws being simple, and many of the metallic species are also so closely allied in structure, differing also only in the claws, that to maintain the two groups as distinct genera appears almost absurd, more especially as there are forms whose claws might fairly be regarded as intermediate.

CHRYSOMELA ACACIAE, n. sp.

Flavous, apical half (or more) of antennae black, tips of tibiae and parts of tarsi sometimes infuscated.

Head with dense and rather coarse punctures between eyes, much smaller and sparser elsewhere, with a feeble median line; clypeus with rather dense and small punctures, suture deep. *Antennae* rather short and stout. *Prothorax* more than twice as wide as long, basal two-thirds almost parallel-sided; sides with dense and coarse punctures, much sparser and smaller (but still fairly large) elsewhere. *Elytra* distinctly wider than prothorax, sides very gently rounded; with rather coarse punctures in irregular geminate or sub-geminate rows, becoming smaller posteriorly, interstices with sparse and minute punctures. Inter-coxal process of *prosternum* grooved along middle, base notched. Length, 5-6½ mm.

Hab.—South Australia: Nuriootpa, Rocky Gully (J. G. O. Tepper), Murray Bridge (H. H. D. Griffith and A. M. Lea). Type, I. 2596.

Smaller than the preceding species and with coarser punctures, on the elytra the lines of punctures are without the beautiful regularity of those of that species. On all the specimens in the Museum the apical half of the elytra is distinctly paler than the basal half, but the two shades of colour are not sharply defined; living specimens, however, are of a uniform delicate pale leek-green. Specimens are fairly common on a dwarf species of *Acacia*.

CHRYSOMELA PUBICEPS, n. sp.

Flavous; elytra (punctures excepted), sides of prothorax, and abdomen paler than elsewhere; apical third (or more) of antennae black or infuscated. *Head* with short but distinct pubescence.

Head with crowded but not very large punctures, with a feeble median carina; clypeal suture distinct. *Antennae* rather short and stout. *Prothorax* more than thrice as wide as long, basal two-thirds almost parallel-sided, front angles rather acutely produced; with dense and coarse punctures

throughout, the interspaces with minute ones. *Elytra* at base not wider than prothorax, sides very gently rounded; with irregularly geminate rows of fairly large punctures, becoming much smaller posteriorly, interstices with rather numerous minute ones. Inter-coxal process of *prosternum* with a few punctures, then grooved along middle, with the base deeply notched. Length, 6-7½ mm.

Hab.—South Australia: Oodnadatta (Blackburn's Collection); Queensland: Cunnamulla (H. Hardcastle). Type, I. 2604.

The claws are considerably thickened towards the base, but as they are without dentiform processes they must be regarded as simple. The head is clothed with short but distinct pubescence, of which there is not a trace on either of the preceding species; the under-surface (except abdomen) and legs are similarly clothed. The punctures on the disc of the prothorax are almost as coarse as those on the sides—an unusual feature in the genus. The elytral punctures, although irregularly geminate, are seen to be distinctly seriate in arrangement; on the Cunnamulla specimen, however, they are less conspicuously so.

CALOMELA CURTISI, Kirby, var.

A specimen from the Capel River (Western Australia) differs from the ordinary form of this species in having the green vitta on each elytron represented by an outer ellipse only, the inner portion being exactly the same colour as the lateral and sutural regions.

CALOMELA AENEONITENS, Clark.

A specimen from Beverley (Western Australia) possibly belongs to this species, but differs from the description in having the head bright brassy-green, and the prothorax, scutellum, and elytra uniformly greenish-blue or violet-blue (according to the point of view): the under-surface also has a distinct metallic-green gloss and the antennae are infusate towards apex. In general appearance it is close to *Chrysomela fulvilabris*, but each of the claws has a stout basal appendix; it differs also from that species in being thinner, head with denser and coarser punctures, elytral punctures more numerous and still more irregular, and legs somewhat thinner.

CALOMELA PULCHELLA, Baly, var.

A specimen from Toowoomba (Queensland) evidently belongs to this species, but its head and prothorax have a distinct coppery-green gloss, superimposed upon the red of the normal form.

CALOMELA WATERHOUSEI, Baly.

C. lauta, Blackb.

As the descriptions of the above read as if founded upon but one species, Mr. Arrow was asked to compare the types. In reply he wrote:—"C. lauta, type, agrees with a specimen named *waterhousei*, by Baly, but apparently not the actual type, which I cannot find."

CALOMELA RUFICEPS, Boi.

Australica pyrrhocephala, Clark.

Mr. Arrow was asked if he considered *pyrrhocephala* to be a synonym of *ruficeps*. Of the type he wrote:—"Agrees exactly with a specimen which appears to be a type of *ruficeps* from the Dejean Collection in this (British) Museum."

CALOMELA LATICOLLIS, n. sp.

Of a dingy testaceo-flavous, head somewhat darker, punctures with a purplish gloss.

Head wide, with dense punctures of fairly large or moderate sizes, on clypeus denser and smaller than elsewhere. *Prothorax* more than twice as wide as long, sides gently increasing in width to near base; punctures larger than on head but not so dense, larger towards (but not on) sides than elsewhere. *Elytra* elongate, parallel-sided to near apex; with almost regular rows of deep punctures, somewhat larger and more irregular along middle than elsewhere. Inter-coxal process of *prosternum* conspicuously bilobed at base, with a few scattered punctures. *Claws* somewhat obtusely dentate. Length, $7\frac{1}{2}$ mm.

Hab.—North-west of South Australia (H. Basedow). Type (unique), I. 2600.

At a glance close to *lauta*, but elytral punctures very different. In many respects it agrees with the description of *waterhousei*, but that species is noted as having "whole upper-surface closely covered with deep punctures," whereas on this species the majority of the elytral punctures, even to the naked eye, are in regular, or almost regular, series. The greatest width of the prothorax is slightly more than that of the elytra. The antennae (except the basal joints) are missing from the type.

CALOMELA TENUICORNIS, n. sp.

Dark bronzy-green or brassy-blue, under-surface brassy-green, labrum and appendages (apical third or more of antennae infuscated) of a dingy-flavous, knees infuscated or bluish.

Head wide with crowded punctures of median or rather small size, becoming larger and denser on clypeus. *Antennae* thin, extending to about middle of metasternum. *Prothorax* more than twice as wide as long, basal two-thirds parallel-sided, thence gently rounded to apex; punctures in middle much as on head, but less crowded, becoming denser and larger towards sides. *Elytra* elongate, parallel-sided to near apex; towards suture with a few irregular rows of punctures, but elsewhere larger and crowded. *Prosternum* with coarse punctures in places, the sides transversely or obliquely strigose; inter-coxal process with a row of large punctures, its base conspicuously bilobed. Length, 6-8 mm.

Hab.—Western Australia: Cue, Ankertell (H. W. Brown), Sandgate (H. J. Carter). Type, I. 2598.

There is a subdentiform swelling at the base of each of the front claws, so that these could not be regarded as simple, but on the other claws the swelling, although traceable, is not dentiform in character, hence the species might have been referred to *Chrysomela*; but as it is quite obviously allied to *lauta*, and to the preceding species, it appears better to refer it to *Calomela*; from *lauta* it differs in being more metallic, narrower, and by the conspicuous row of punctures on the inter-coxal process of prosternum (on a specimen marked as *lauta* by the late Rev. T. Blackburn, and on others of the species, the process is wider and without such a row). The antennae are thinner than in most species of the genus. Although the specimens could hardly be described as black with a metallic gloss, their upper-surface is certainly not of the bright metallic-blue or green (wholly or in part) of others of the genus, and there are no sharply-defined bands of colour on the upper-surface, but on the same specimens some of the punctures are bluish and others are purplish and greenish. The elytral punctures are deep and well defined, but (except towards the suture and on the margins) many of them are so closely placed together that they appear to be transversely or obliquely confluent, and the majority are slightly wider than long.

Some specimens from Cue are much smaller ($4\frac{1}{4}$ - $4\frac{3}{4}$ mm.) and have the punctures on the inter-coxal process fewer in number and the groove containing them deeper; but they appear to represent a variety only.

CALOMELA PROSTERNALIS, n. sp.

Black, with a bronzy gloss, becoming bronzy-green on parts of the under-surface; labrum, antennae, palpi, and parts of legs, more or less obscurely diluted with red.

Head with crowded and distinct but rather small punctures, with a shining median line; clypeus with denser but not smaller punctures than on rest of head, its suture very distinct. *Antennae* not very stout, extending almost to apex of metasternum. *Prothorax* shagreened, fully twice as wide as long, sides rather strongly and evenly rounded; with crowded punctures, somewhat larger than on head, but very sparse and irregular on middle. *Elytra* shagreened, shoulders gently rounded, with subgeminate rows of rather small punctures, becoming irregular on apical slope. *Prosternum* with dense and coarse punctures, inter-coxal process conspicuously bilobed at base. Length, $8\frac{1}{4}$ - $8\frac{1}{2}$ mm.

Hab.—Western Australia: Cue (H. W. Brown). Type, I. 2601.

In size and sculpture much like *imperialis*, but the upper-surface finely shagreened and without the beautiful play of colours of that species. In general appearance, at a glance, somewhat like enlarged and widened specimens of *Chrysomela australica*, but the elytral punctures are very different. The claws on the four front tarsi are conspicuously dentate, but on the hind ones are feebly so, although the teeth are fairly distinct from certain directions.

CALOMELA MINIMA, n. sp.

Flavous, with smoky-brown markings.

Head with irregularly-distributed punctures, not very large towards base, but somewhat larger in front; clypeus very short, its suture irregular. *Antennae* extending to middle of metasternum, joints sixth to tenth transverse. *Prothorax* about twice as wide as long, basal two-thirds almost parallel-sided; with well-defined but not very large punctures, moderately crowded towards (but not on) sides, but sparser elsewhere. *Elytra* not wider than prothorax, parallel-sided to near apex; with regular rows of distinct but not very large punctures, becoming smaller posteriorly, interstices with a few minute ones. Inter-coxal process of *prosternum* with a row of punctures on each side, base obtusely bilobed. Length, $3\frac{1}{4}$ - $3\frac{1}{2}$ mm.

Hab.—Queensland: Bundaberg (A. M. Lea). Type, I. 2606.

Much smaller and with colour pattern different from those of any previously-described species, but with the ordinary outlines of a *Calomela* or *Chrysomela*, and the armed claws of the former (the claws from certain directions appear to be unarmed, but from others they are seen to be distinctly, although rather obtusely, dentate near base). The darker

parts are sharply defined but somewhat variable; on the head they consist of a transverse bilobed space at the base and an irregular one in middle, two fairly large angular spots on prothorax (slightly nearer base than apex, and distinctly nearer sides than each other), most of elytra, apical half (or more) of antennae, knees, tarsi, and tips of tibiae; on one specimen the scutellum, clypeus, and a spot on each palpus are dark, and parts of its under-surface are obscurely mottled. On each elytron the paler portions are roughly and irregularly circular, so that they enclose dark spaces, of which one is basal and the other subapical.

CALOMELA (*PLATYMELA*) *STICTICOLLIS*, Baly.

The ground-colour of the prothorax and under-surface of this species varies from pale-flavous to reddish-castaneous, the six prothoracic spots are usually conspicuous, but occasionally the two outer ones are absent, occasionally the legs are entirely pale. Baly described the inter-coxal process of the prosternum as truncate; it is certainly not conspicuously bilobed as on most species of *Calomela*, but as it certainly is gently incurved to its middle the expression (as a generic feature) might be somewhat misleading. He also recorded the species as from Melbourne, but probably in error; the species is fairly common from the Richmond River in New South Wales to the Coen River in Queensland.

CALOMELA (*PLATYMELA*) *RUFICASTANEA*, n. sp.

Reddish-castaneous, labrum and basal third of antennae (the apical two-thirds infuscated) flavous; tarsi, and sometimes parts of tibiae, more or less deeply infuscated.

Head with irregularly-distributed punctures, varying from moderately large to small, and larger between eyes than elsewhere; clypeus not depressed, with dense and rather small punctures, its suture distinct but not deep. Antennae rather long and thin, none of the joints transverse. *Prothorax* more than twice as wide as long, sides gently decreasing in width from base to apical fourth and then more rapidly to apex, front margin gently bisinuate; with irregularly-scattered punctures of moderate size and with numerous minute ones. *Elytra* very little wider than prothorax, with regular rows of not very large punctures, becoming much smaller posteriorly, the interstices with fairly numerous minute punctures; with a vague depression behind each shoulder. Inter-coxal process of *prosternum* with a row of punctures in a groove on each side of basal two-thirds, base gently incurved to middle. *Claws* strongly and acutely dentate (almost bifid). Length, 8-10½ mm.

Hab.—Queensland: Cairns (F. P. Dodd and E. W. Ferguson). Type, I. 2610.

The uniform colour of the upper-surface, with the entire absence of metallic gloss, will readily distinguish this species from *sticticollis* and *unilineata*, the prothoracic punctures are also more conspicuous (these are denser on each side of base than elsewhere, but towards the sides themselves they are not quite as dense as in the middle); but the general outlines and the base of the prosternum are as on those species.

STETHOMELA POROPTERA, Baly.

S. foveipennis, Jac.

Two specimens in the Blackburn Collection were labelled as *poroptera*, but as they appeared also to agree with the description of *foveipennis* Mr. Arrow was asked for his opinion as to their identity, and it was pointed out to him that, although there were slight differences in the descriptions of the colours of the antennae and legs, the elytral punctures are so very different to those of ordinary species that the differences might well be varietal. In reply he wrote:—"I think there is no question that these are one species. The antennae are practically the same in both types, and the difference in the legs is of no importance."

STETHOMELA SUBMETALLICA, Baly.

Var. *fraternalis*, Baly.

The form described as the typical one of this species has the prothorax red, more or less stained with metallic-brown. Such a form is rather rare. One specimen in the Museum has the prothorax uniformly red and the elytra obscurely diluted with red, but several have the prothorax dark metallic-green, obscurely diluted with red; on others the head (except in front) and pronotum are entirely dark metallic-green. The under-surface, whilst usually reddish, is sometimes metallic-green in parts, occasionally it is almost black, with metallic-green in parts. The punctures usually have a purplish or greenish glitter.

Var. A. This is perhaps the commonest form of the species.

Var. B. Possibly described from an immature specimen.

Var. C, n. var. Bright coppery-green, clypeus, labrum, scutellum (occasionally with infusate margins), antennae, palpi, and legs more or less reddish, under-surface more or less red, but in places with a metallic-green gloss, or metallic-green, some parts reddish. This is the common form about Cairns.

Var. *fraternalis*, Baly. I cannot regard *fraternalis* as more than a variety of *submetallica*. Baly noted the punctures on each elytron as being in eight double rows, but (excluding the short single subscutellar and the marginal rows) they are really nine in number.

Var. *femoralis*, n. var. Metallic purplish-blue (some specimens bluish-green with a slight coppery gloss), clypeus, labrum, scutellum, antennae, palpi, and legs (femora metallic-green in middle) more or less red; under-surface metallic-green, sides of sterna reddish, parts of abdomen more or less conspicuously diluted with red. The four specimens under examination are longer and wider (11 × 8 mm.) than the typical form and the other varieties, but structurally are so close that it does not appear desirable to describe them as representing more than a variety, but which should be named.

Hab.—Coen River (H. Hacker) and Prince of Wales Island (H. Elgner).

STETHOMELA PARRYI, Baly (?)

Two specimens from Dorriggo (the type was from "Australia") perhaps belong to this species; they have the elytral punctures widely spaced in series, resembling (except in their much smaller size and rather less irregular distribution) those of *Clidonotus gibbosus*. But Baly described the prothoracic punctures as "large"; although distinct and deep, those of the specimens in the Museum could hardly be regarded as large, but he said they were of similar size to those on the elytra, these being much smaller than on *gibbosus*. He also described the head as "impressed just above the epistome with a few deep foveae." There are a few deep punctures (similar to those on the prothorax) close to the deep clypeal suture, but as many species of the genus differ considerably in the punctures, and the curiously-distinct elytral punctures, the size and colour agree with the description, it is better to regard the specimens as possibly belonging to *parryi*.

STETHOMELA PRASINA, Baly.

Living specimens of this species are of a pale non-metallic-green, except for the tarsi, tip of palpi, and the greater portion of antennae, which are more or less deeply infuscated or blackish. But shortly after death the under-surface and legs become flavous, and frequently the head and prothorax as well. The size is usually smaller than that (5 lines) of the type, and the large shallow prothoracic foveae are often absent; the type also appeared to have uniformly pale antennae, but I have not seen such a specimen. The

species is fairly common in the northern coastal districts of New South Wales and the southern ones of Queensland. Although noted as being larger than *submetallica*, its average size is less than the average size of that species.

STETHOMELA FLAVICORNIS, Jac. (formerly AUGOMELA).

S. cupripes, Lea.

This species varies somewhat in size, and the general colour of individuals varies from metallic-blue to violet, with a slight golden gloss. Jacoby referred the species to *Augomela*, but its general outlines, with the comparatively long antennae and the front of the inter-coxal process of prosternum strongly elevated above the adjacent parts, appear to me to be conclusive that it should be referred to the closely-allied genus *Stethomela*, to which *cupripes* (a synonym of *flavicornis*) was referred.

STETHOMELA CORNUTA, Baly.

Some specimens of this species are of a brassy-green and rather smaller than the typical form; the upper edge of the mandibles of the male is also less conspicuously grooved and more sloping.

STETHOMELA OLIVACEA, Jac.

Numerous specimens from Cairns agree with the description of this species, except that they are slightly larger (8.9 mm.) and have three instead of two of the basal joints of antennae pale; on most of them portion of the base of the prothorax is feebly stained with dull-green.

STETHOMELA PURPUREIPENNIS, n. sp.

Reddish-castaneous, elytra purple.

Head with small scattered punctures, with a distinct but rather feebly-impressed median line; clypeus with rather dense but small punctures, suture well defined, an oblique impressed line from each end of suture to hind margin of eye. Antennae rather short, eighth to tenth joints transverse, eleventh slightly wider than tenth but not transverse. *Prothorax* almost thrice as wide as long, basal three-fourths almost parallel-sided; with minute punctures and some of larger size (but not very large) irregularly scattered, and denser towards sides than elsewhere. *Elytra* with outlines subcontinuous with those of prothorax; with regular rows of not very large punctures, becoming smaller posteriorly, interstices each with a row of minute punctures. Length, 5.6½ mm.

Hab.—Queensland: Coen River (H. Hacker); North-western Australia: King's Sound (W. W. Froggatt). Type. I. 2676.

A briefly-elliptic species, in general appearance fairly close to *caudata*, but entirely red except for the purple elytra (in certain lights almost any part of these may appear to have a coppery-green gloss); head with much smaller punctures, prothorax with much smaller ones, becoming very minute on disc (on the disc of *caudata* they are almost as large as on the sides), and the inter-coxal process of prosternum of very different shape (on *caudata* it is elongate-subtriangular in shape, bounded by slightly-elevated walls, which meet in front; on the present species the process is narrower, the groove is distinct throughout, and its walls diverge in front).. On many specimens the scutellum has infuscated margins.. The elytra are without posthumeral impressions. The apical joint of the maxillary palpi is less securiform than usual in the genus. On close examination a feeble subdentiform swelling may be seen at the base of each claw, so that it could not be regarded as simple, as at first it appears to be..

STETHOMELA RARA, n. sp.

Flavous; elytra dark metallic-blue, except the suture (very narrowly), margins (but just behind the shoulders infuscated), and epipleurae; a small infuscate spot on each side of base of prothorax, tarsi, parts of tibiae, and tips of palpi more or less infuscated, antennae obscurely bluish, three basal joints more or less flavous.

Head with rather small punctures, sparser and smaller between eyes than elsewhere, median line well defined; clypeus with moderately dense punctures, suture well defined but not very deep, a shallow oblique impression extending from near each end of same to the hind margin of the eye. Antennae moderately long and fairly stout, none of the joints transverse, second about half the length of third. *Prothorax* about thrice as wide as long, sides feebly increasing in width from base to apical third and then rapidly decreasing to apex; with small scattered punctures and a few of larger size at extreme base towards each side. *Elytra* subovate, distinctly wider than prothorax; with regular rows of moderately large punctures, becoming much smaller posteriorly, interstices with numerous minute punctures. *Claws* each with a large suboblong basal appendix. Length, 9 mm.

Hab.—New South Wales: Dorrigo (W. Heron). Type (unique), I. 4866.

In some respects close to some of the varieties of *limbata*, but head with numerous small punctures instead of a few large ones, prothorax with rather minute and scattered, but rather numerous, punctures instead of a few large ones.

elytra with numerous small ones on the interstices; apical joint of maxillary palpi less securiform, and inter-coxal process of prosternum very feebly grooved. From *olivacea* it is also readily distinguished by the punctures and by the elytral margins. The inter-coxal process rapidly slopes downwards from its middle, so that at its apex it is not conspicuously elevated above the adjacent parts, simply being the summit of two sloping sides.

STETHOMELA FLAVOMARGINATA, n. sp.

Dark reddish- (almost chocolate-) brown, parts of under-surface and of legs more or less obscurely diluted with red; palpi, basal joints of antennae (the others almost black), and parts of elytra flavous.

Head with numerous but rather small punctures; clypeus almost on the same plane and with similar punctures to rest of head, suture fairly distinct but rather feebly depressed. Antennae long and thin, none of the joints transverse. *Prothorax* more than thrice as wide as long, sides evenly rounded, front angles acute, a shallow depression near each side; with numerous small or medium-size punctures somewhat irregularly distributed, some large ones on each side in front. *Elytra* at base slightly wider than prothorax, sides gently dilated to beyond the middle and then widely rounded; with regular rows of not very large punctures, and with numerous small but distinct punctures on the interstices. *Claws* strongly and acutely dentate. Length, $7\frac{1}{2}$ - $8\frac{1}{2}$ mm.

Hab.—Queensland: Cairns (F. P. Dodd, E. W. Ferguson, and A. M. Lea). Type, I. 4874.

A very aberrant species, for which perhaps a new genus should have been proposed; the apical joint of the maxillary palpi is unusually wide, and the subapical joint (which is somewhat triangular) of different shape to that of any other species that I have seen. At first glance it appears like an aberrant form of *Paropsis*,⁽³⁰⁾ but the palpi, inter-coxal process of prosternum, and elytral epipleurae are very different to those of that genus. The shape and punctures of the head and prothorax are much like those of *rufimana*. The inter-coxal process of prosternum is unusually wide and almost perfectly flat throughout; in front it appears to form the flattened culmination of two slopes, instead of being conspicuously elevated above the adjacent parts; its base is gently incurved to middle. The elytra are without post-humeral impressions; their epipleurae are flat towards the

(30) From examination of the upper-surface only, it might have been referred to Group 5 (formerly 6), Subgroup 1, of that genus.

base (where they are pale) and then become almost vertical, with a narrow gutter, where they touch the abdomen. On one specimen the labrum is conspicuously paler than the adjacent parts, on another it is slightly paler, but on two others it is uniform with them. Each elytron appears to have a large suboblong chocolate-brown patch, almost completely bordered with flavous; the flavous part commences abruptly on the margin slightly before the middle, margins the base (for a space about equal to half the length of the prothorax), is deflected near (but not on) the suture almost to apex, and then curves round near (but not on) the side almost to its starting-point.

AUGOMELA IRIDEA, Baly.

There are five specimens before me (from Brisbane and Mackay) that appear to belong to this species; they vary in length from 7 to $8\frac{1}{2}$ mm., and with markings (although of the same kind) more sharply defined on some than on others. Baly described the head as "deep metallic blue, with a golden-green reflection." On the specimens before me the head is mostly brassy or brassy-purple, becoming green about the base; four specimens have the legs as described, but on one the femora and tibiae (knees excepted) are both conspicuously reddish. The middle of the prosternum is more densely clothed with hairs than on any other species known to me, and this character alone will readily distinguish it from them; each elytron also is without the conspicuous purple cross so typical of *ornata*, of which at first it appears to be a variety; on *ornata* also the process is flatter and wider, very sparsely clothed, and much less conspicuously notched at the base.

AUGOMELA HYPOCHALCEA, Germ.

This species is common in parts of South Australia and of New South Wales, it occurs also at Stradbroke Island and elsewhere in Southern Queensland, and a specimen was in the Blackburn Collection, labelled as from King Sound.

AUGOMELA MULTISERIATA, n. sp.

Black with a slight bronzy-green gloss, labrum, antennae, palpi, tibiae, and tarsi more or less reddish.

Head with minute punctures and a vague median line; clypeal suture conspicuously trisinate. *Prothorax* more than thrice as wide as long, sides gently rounded, front angles produced; with minute punctures, and with some larger ones sparsely distributed towards sides, but fairly numerous on extreme base. *Elytra* almost as wide as long, each side with

a subhumeral swelling; each with about twenty rows of distinct punctures, the interstices with a few minute ones, with some rather coarse punctures across basal third, but commencing some distance from suture. Inter-coxal process of *prosternum* strongly elevated above the adjacent parts, sides feebly incurved to middle, apex obtusely rounded, and base distinctly notched. *Claws* strongly dentate. Length, $7\frac{1}{2}$ mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type, I. 4871.

The apical joint of the maxillary palpi is less conspicuously securiform than on most species of the genus. The antennae are moderately long, and the species might quite as well have been referred to *Stethomela* as to *Augomela*, but its general outlines are somewhat as in *Chalcomela tricolor* and *C. viridimicans*; the rows of elytral punctures are almost twice as numerous as on other species of the allied genera. A second specimen from Bundaberg (Blackburn's Collection) has the upper-surface of a dark brassy-green, with the tibiae almost black.

AUGOMELA TIBIALIS, n. sp.

♂. Colours brightly metallic and variable; labrum, four or five basal joints of antennae (the others more or less blackish), and palpi (tip infuscated) more or less reddish.

Head with small, irregularly-distributed punctures, median line rather feeble; clypeal suture deep, a narrow impression connecting each side of it with middle of an eye. Antennae not very long, but no joint transverse. *Prothorax* scarcely thrice as wide as long, basal two-thirds almost parallel-sided; with fairly numerous, scattered, distinct punctures, larger at extreme base than elsewhere, and with numerous very minute ones. *Elytra* slightly wider than prothorax, sides feebly dilated behind shoulders, with regular rows of fairly large punctures, becoming small posteriorly, interstices with minute punctures. Inter-coxal process of *prosternum* grooved towards and strongly notched at base. Four hind *tibiae* strongly curved towards apex, with a conspicuous ridge on lower-surface. Length, $7\frac{1}{2}$ – $8\frac{1}{2}$ mm.

♀. Differs in having four hind tibiae almost straight and basal joint of each tarsus somewhat narrower.

Hab.—Queensland: Coen River (W. D. Dodd and H. Hacker), Cape York (H. Elgner).

Allied to *hypochalcea*, but with more conspicuously-armed claws, the tooth of each claw is large and very distinct; on that species the tooth is but moderately distinct from certain directions and quite invisible from most; *hypochalcea* also has a foveate expansion of a puncture (or of two or three

punctures) in the fifth (counting the short scutellar one) row of punctures at the posthumeral depression, and sometimes one in the fourth as well. Both species vary considerably in colour, but whereas on *hypochalcea* each elytron (when not uniformly coloured) has a blue transverse vitta occupying the posthumeral depression, and no other; on the present species there is a wider blue vitta there, and an oblique postmedian one as well. But the four hind tibiae of the male readily distinguish the species from *hypochalcea* and from all other described ones of the genus.

The most abundant form has the upper-surface mostly of a fiery-red or golden, with parts of the clypeus and a median line on head, an irregular part of base, and the extreme lateral and apical margins of prothorax, scutellum, suture, the two vittae on each elytron (the first transverse and at the basal third, the second oblique and from just beyond the middle to near the apex) purple, but where the two colours join the surface is more or less of a golden-green; the under-surface and legs are more or less golden-green or fiery, overlaying blue or purple. But many specimens are more or less brassy-green, with purple markings as noted, and with the under-surface and legs almost entirely purple.

Var. 1. Purple, with a greenish gloss replacing the fiery-golden colour of the upper-surface, but head (labrum excepted) and under-surface entirely purple. One male of this form with the green but feebly indicated was sent by Mr. Dodd as having been taken *in cop.* with a normal female; other specimens have the green so faintly indicated that they might have been regarded as belonging to the following variety.

Var. 2. Entirely purple (except for the labrum, antennae, and palpi). This form has a deceptive resemblance to *Stethomela flavicornis*, but the prosternum is very different and antennae with only some of the basal joints partly pale, etc.

CYCLOMELA NITIDA, Baly.

On the form of this species with brassy elytra the tibiae are usually uniformly red, on the form with coppery-green elytra they are usually black at the base; one specimen before me has purplish-blue elytra, with no black on the tibiae; another with brassy elytra has knees black at the base and the prothorax (except at the sides) deeply infuscated.

CYCLOMELA NIGRICOLLIS, n. sp.

Head, basal joints of antennae (the others black), palpi, and legs reddish-flavous; prothorax, scutellum, and under-surface black, elytra metallic-green.

Head with sparse and small punctures and a feeble median line; clypeus with small but more numerous punctures than elsewhere, suture somewhat curved, and a vague depression extending from each end to middle of an eye. Antennae moderately long and thin. *Prothorax* about thrice as wide as the median length, base widely lobed in middle, basal three-fourths almost parallel-sided, front angles produced and strongly rounded; with minute punctures and with some rather large scattered ones on sides and at extreme base. *Elytra* with sides conspicuously inflated near shoulders, with regular rows of moderately-large punctures, becoming much smaller posteriorly, a much larger puncture or fovea in the eighth row near shoulder, interstices with numerous minute punctures. Inter-coxal process of *prosternum* obtusely pointed in front, middle depressed towards base. *Claws* simple. Length, 9 mm.

Hab.—Queensland: Bundaberg (Blackburn's Collection). Type (unique), I. 2678.

Practically the only feature distinguishing *Cyclomela* from *Chalcomela* is the rounded base of the inter-coxal process, and on the type of the present species the pin has passed through the mesosternum forcing its middle on to the prosternal process, but this appears to be rounded. From *nitida* it differs in being slightly less rounded, with conspicuous punctures on sides of prothorax, and in colour. Structurally it is fairly close to *Chalcomela viridimicans*, but the head is reddish and prothorax black. In some lights the elytra have a purplish gloss.

CHALCOMELA EXIMIA, Baly.

Var. *cupreosplendens*, Lea.

The typical form of this species has the prothorax more or less golden or golden-green, with the extreme apex and a rather wide basal fascia purplish-blue; the elytra are purplish-blue with golden or golden-green markings, forming on the left elytron an irregular figure 6 (and, of course, reversed on the right), all the golden markings where they join the purple ones are more or less conspicuously bordered with green. The figure that accompanies the original description is a very poor one and somewhat misleading. With a fairly-extensive series of specimens it becomes evident that there are many colour varieties, one of which was previously named as distinct. On the prothorax a common variation is for the purple or purplish-blue marking to be so extended that the golden band of the typical form is broken up into three large spots—a somewhat wedge-shaped one on each side and

a transversely-elliptic or rounded one between, all three, however, sometimes obscurely connected in some lights. On the under-surface and legs the golden markings also vary in extent. The species occurs from Northern Queensland (including some of the adjacent islands) to Roebuck Bay in North-western Australia.

Var. A. Golden markings of prothorax in the form of three disconnected spots, on elytra irregularly margining the base and sides, and turning up for a slight distance along suture, but not touching the suture itself (on all the specimens before me, both of the typical form and of the varieties, the suture is invariably purple or blue, although sometimes very narrowly so).

Var. B. Like A, but with golden zone of prothorax not broken up into spots, although with undulated margins.

Var. C. Each elytron with golden markings connected along (but not touching) suture, as well as side, and enclosing two large purple spots, the first irregularly curved, the second irregularly subtriangular.

Var. D. With markings as on typical form, but of a fiery golden-red, not margined with green.

Var. *cupreosplendens*, Lea. Golden markings of elytra confined to base and sides.

CHALCOMELA VARIEGATA, Jac.

A specimen from Dorrigo⁽³¹⁾ probably belongs to this species, but it has the prothorax coppery-green and purple, instead of cupreous and green; the elytra also have obscurely purplish markings, but these are common variations in the subfamily. Two other specimens, from Gympie, probably also belong to the species, but differ in having the under-surface, legs (except for a metallic-green gloss in places), and antennae dull-red, the labrum also is of but one colour (instead of two as on the type and the Dorrigo specimen); one has the prothorax entirely metallic-green, on the other it has obscurely-defined patches of purple. On all the suture is narrowly purplish. On these specimens, on close examination and from certain directions, a feeble subdentiform swelling may be seen at the base of each claw, but it could easily be overlooked, even when searched for; so that, as the apical joint of the maxillary palpi is not securiform, it appears better left in *Chalcomela* than transferred to *Augomela*, to several species (*Hypochalcea* and allies) of which it bears a strong resemblance.

(31) Near the Richmond River, probably the original locality, although such was given as Richmond.

CHALCOMELA TRICOLOR, Lea.

Several specimens from Cairns differ from the type in being considerably smaller (down to $5\frac{1}{2}$ mm.); one has the upper-surface entirely black, except for a slight greenish gloss, another has it purplish-black, also with a greenish gloss, and another has elytra black with a vague purplish gloss, but the prothorax of a beautiful bright-purple. The prothoracic punctures (except on the sides, where there are always some large ones) are usually dense and small, but still distinct, but on some specimens they are so small as almost to reach the vanishing point.

CHALCOMELA FULVIPES, Jac.

Two specimens from Brisbane probably belong to this species, but Jacoby described the elytra as "strongly and regularly punctate-striate," and again as "very regularly punctate-striate, the punctures closely placed, nearly obsolete at the apex." The specimens in the Museum are very regularly seriate- (not striate-⁽³²⁾) punctate, but the punctures are (for the group) rather small, although distinct. He described the terminal joint of the palpi as being "nearly as long as the preceding one," whereas on these specimens it is distinctly shorter and narrower. He also described the clypeus as "not separated from the face"; the specimens in the Museum have the clypeal suture marked by a thin coloured line, but not by a deep groove, as in many species of the group.

CHALCOMELA SIMULANS, n. sp.

Black, in certain lights with a vague purplish or greenish gloss; antennae, palpi, and legs (femora excepted) flavous.

Head with sparse and minute punctures, median line feeble; clypeus with rather dense punctures, suture distinct and somewhat curved, a narrow depression connecting each end of same with the middle of an eye. Antennae rather thin, none of the joints transverse. *Prothorax* about thrice as wide as median length, sides feebly diminishing in width to apical fourth, and then more strongly to apex: with numerous sharply-defined, but rather small, irregularly-distributed punctures, somewhat larger at extreme base than elsewhere. *Elytra* very little longer than wide, shoulders strongly rounded, and sides feebly dilated beyond same: with regular rows of not very large but sharply-defined punctures, becoming much smaller posteriorly; interstices almost or quite impunctate. Inter-coxal process of *prosternum* scarcely

(32) Many describers have used the word "striate" when true striae are absent from the elytra and the word "seriate" should have been used.

elevated in front, grooved along middle, base bilobed. *Claws* simple. Length, $6\frac{1}{4}$ mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type, I. 2659.

Structurally close to *illudens* and *variegata*, but rather more rounded, with somewhat smaller punctures and very differently coloured. In general appearance it is close to *Stethomela atra*, but which has conspicuously armed claws; there is also a strong general resemblance to *Augomela multi-seriata*, but, apart from several generic features, each elytron has but eleven rows of punctures. The elytra are entirely without transverse posthumeral depressions, and the punctures at the usual position of same are not larger than elsewhere. A second specimen (from the Blackburn Collection, without locality label) is almost entirely without metallic gloss.

LAMPROLINA GRANDIS, Baly.

The large size and absence of foveae from the posthumeral depressions render this species a very distinct one. It was named from a single damaged specimen from an unknown locality. Some specimens from the Northern Territory were identified by the late Rev. T. Blackburn as belonging to the species and agree with the description; they have the antennae dark metallic-violet, and the three basal joints and the tarsi are entirely dark; but some specimens labelled as from Central Australia have most of the antennal joints black.

LAMPROLINA SIMILLIMA, Baly.

On the typical form of this species the elytra have a distinctly coppery tone, without the least trace of blue or green; it may occasionally be taken near Sydney with (the there abundant) *aeneipennis* on *Bursaria spinosa*.

Var. (?) Some specimens from Mount Tambourine may represent a variety; they differ in having the elytra of a rather obscure metallic bluish-green, with rather more distinct series of punctures, although still small. It is quite possible, however, that they belong to *jansoni*.

LAMPROLINA DISCOIDALIS, Baly.

On each of four specimens that appear to belong to this species (including two standing in the Blackburn Collection as such) the prothoracic marking consists of an irregular blotch occupying the median half of the apex and terminated before the base, with its posterior edge quadrilobed (the two median lobes nearer the base than the others). On the head the markings consist of two rather large inter-ocular spots,

sometimes conjoined. The elytral punctures, although small, are quite distinct, and readily traceable almost to the apex.

LAMPROLINA SIMPLICIPENNIS, n. sp.

Brassy-purple or coppery-green; head, prothorax (a wide median brassy-green vitta excepted), legs (tarsi and parts of tibiae blackish), and part of abdomen more or less reddish, antennae purplish, part of basal joint obscurely reddish.

Head almost impunctate, with a wide subtriangular depression in middle and a shallow one close to each eye; clypeus depressed, suture rather deep. Antennae stout, extending almost to apex of metasternum. *Prothorax* about twice as wide as long, with two rather small irregular foveae on each side, a few punctures at base on each side, elsewhere impunctate. *Elytra* distinctly wider than prothorax, sides gently rounded; with a shallow post-humeral depression, in which are two or three large punctures, elsewhere impunctate or almost so. Length, $6\frac{1}{2}$ -7 mm.

Hab.—New South Wales: Dorrig (W. Heron); Queensland: Mount Tambourine (H. Hacker and R. Illidge). Type, I. 2630.

In general appearance strikingly close to *discoidalis*, but differs in the head being immaculate, the prothorax with a wide median vitta continuous from base to apex, the lateral foveae considerably smaller, but in particular by the elytra, these at first appearing to be without series of punctures, and only on close examination may a few seriate ones be seen inwards of the posthumeral depression; on *discoidalis*, although for the genus rather small, the rows of punctures are quite distinct.

LAMPROLINA FOVEILATERA, n. sp.

Reddish-flavous; elytra, tarsi, and apical parts of tibiae metallic greenish-blue, antennae purple, the basal joints metallic-green, palpi black with a metallic gloss.

Head with a subtriangular depression in middle and a shallow one close to each eye, with a few large and some smaller punctures scattered about; clypeal suture semi-circular and rather deep. Antennae rather long and stout. *Prothorax* not twice as wide as long; with two coarsely-punctured foveae on each side, about base with some coarse punctures, becoming crowded towards each side at extreme base, with scattered and rather small but distinct ones elsewhere. *Elytra* elongate, widest at about apical third; with rows of distinct and moderately large punctures, becoming minute posteriorly, basal three-fifths on each side with some

coarse punctures, occasionally conjoined to form foveae, the first on the fifth row inwards of the (rather feeble) post-humeral depression, two on the sixth row before same, four or five on the subouter row, the intervening rows with from one to three. Length, 11-11½ mm.

Hab.—Queensland: Mount Tambourine. Type, I. 2631.

Allied to *aeneipennis*, but much larger and elytra blue; the coarse elytral sculpture is suggestive of *Johannica*. A specimen from Cairns (H. Hacker) has the elytra more purplish (its suture with a greenish gloss), and the two basal segments of abdomen and base of the third metallic bluish-green, with purple reflections. A specimen from Gosford (H. W. Cox) is still more aberrant; it is paler, with its elytra, two basal segments of abdomen, and base of the third brassy, somewhat as on *simillima*, but with a more golden tone, not the brassy-green of *aeneipennis*; it is also larger (12 mm.) than any of the others.

PHYLLOCHARIS.

In a subfamily many of whose species are conspicuously variable, this genus stands pre-eminent for variability. Some are so inconstant that it is difficult, if not impossible, to find two exactly alike, and others have forms with conspicuous and apparently typical markings, yet with long series all these apparently distinct forms have distinct connecting varieties: in this respect *cyanicornis* and *jansoni* are the most remarkable.

PHYLLOCHARIS BLACKBURNI, Jac. (formerly PLATYMELA).

In Blackburn's Collection ⁽⁵³⁾ there were two specimens of this species, one, evidently a co-type, labelled as having been received from Jacoby. They differ from the description in having but two joints of antennae whitish. Jacoby, in his description, said "thorax bifoveolate," and again, "thorax . . . the sides with a deep fovea." On the specimens in the Museum, however, the pronotum is without fovea, but each flank of the prosternum has a depression.

PHYLLOCHARIS MARMORATA, Lea, var.

A specimen from Blackburn's Collection (without a locality label) is evidently a variety of this species. It differs from the description in having but two apical joints of antennae and part of the preceding one pale, and the pale apical portion of elytra with an obscure, infusate fascia.

⁽⁵³⁾ Standing under *Phyllocharis*, its correct genus.

PHYLLOCHARIS 10-MACULATA, Lea, var.

A specimen, from Cape York, evidently belonging to this species, has a large subquadrate medio-basal dark patch on the pronotum.

PHYLLOCHARIS CAERULEA, n. sp.

Deep metallic-blue, head sometimes with a greenish gloss, under-surface dark purplish-green or bluish, legs red, tibiae and tarsi dark metallic-green; seven basal joints of antennae more or less purplish, three following joints and part of the next whitish, apical parts of eleventh deeply infuscated.

Head with a wide median excavation and some small scattered punctures. Antennae with fifth, sixth, and seventh joints wider than the others. Apical joint of palpi wider than long; somewhat shorter than the preceding joint. *Prothorax* scarcely twice as wide as long; with a few scattered punctures and some conspicuous ones on each side of base, with two deep foveae towards each side. *Elytra* subelliptic, with rows of distinct but not very large punctures, becoming smaller and irregular posteriorly; behind each shoulder with two transverse rows of foveae or large punctures, the first row extending to the second longitudinal row, and the second to the sixth. Inter-coxal process of *prosternum* with a few large punctures, obtusely produced at apex, base conspicuously bilobed. Length, $8\frac{1}{4}$ - $8\frac{1}{2}$ mm.

Hab.—Queensland: Cairns (F. P. Dodd). Type, I. 2635.

The entirely dark prothorax and elytra readily distinguish from all known species of the genus except *fulvifrons*, which is described as having a fulvous head and differently-coloured antennae, besides being structurally different. In general appearance, except for the antennae, it is quite close to the species of *Johannica*.

PHYLLOCHARIS DELICATA, n. sp.

Flavous; a bilobed spot at base of prothorax, six spots on elytra, antennae (basal joint reddish), legs (in parts reddish), and parts of under-surface black, with a metallic gloss.

Head impunctate; rather strongly convex in middle of base, a conspicuous oblique line near each eye joining in with the clypeal suture near its middle. Antennae moderately long, five basal joints shining, the others densely pubescent. *Prothorax* more than thrice as wide as long, sides rounded towards apex, front margin distinctly incurved to middle; with a few conspicuous punctures about middle and some larger ones on each side of base. *Elytra* with shoulders evenly

and sides gently rounded, a deep oblique impression between each shoulder and scutellum, and a shallow one behind each shoulder; with regular rows of distinct but not very large punctures, becoming smaller and irregular posteriorly, interstices impunctate or almost so. Inter-coxal process of *prosternum* not conspicuously ridged in front, basal half deeply grooved, base conspicuously bilobed. Length, $4\frac{1}{2}$ mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type (unique), I. 2681.

A beautiful little species, not close to any other of the genus, although at first glance apparently close to *impressicollis*, but markings different, prothorax wider in proportion, and very differently sculptured. From some directions each side of the prothorax appears to be obtusely dentate about the middle, this really being due to the rapid downward slope of the margins. The scutellum at a glance appears to be black, but is really of a rather dark-red; there are four subangular spots across the basal third of the elytra, the outer ones about twice the size of and somewhat to the rear of the others, the two other spots are transversely elliptic, and placed at the apical third; the dark parts of the under-surface are the basal segment of abdomen, flanks of the mesosternum and metasternum, and a subtriangular space on each side of the metasternum, extending from its hind corner to the middle coxa.

CHALCOLAMPRA CHALYBEATA, Baly.

On some specimens of this species (which appears to be confined to Tasmania) there is a large, round, sharply-limited black spot on the reddish head, but on others the two colours are more diffused, so that the head appears to be mottled. The colours of the rest of the body and of the appendages are generally like those of some specimens of *rufipes*, but the species is decidedly narrower and the punctures are not the same.

CHALCOLAMPRA QUADRIFASCIATA, n. sp.

Flavous, apical half (or more) of antennae infuscated; elytra with four scarlet fasciae.

Head almost impunctate, with a vague median line and a fairly-conspicuous fovea near each eye. Antennae rather long, third and fourth joints subequal and slightly shorter than the following ones. *Prothorax* about thrice as wide as long, apex gently incurved to middle, sides evenly rounded; with a few large punctures about sides, but none elsewhere. *Elytra* elongate, distinctly wider than prothorax at base, sides gently rounded, with numerous minute, almost evenly-distributed punctures. Inter-coxal process of *prosternum*

narrow between coxae, wider and bilobed at base. Each *claw* with a large subacute basal appendix. Length, 5-5½ mm.

Hab.—Queensland: Bundaberg (H. W. Brown), Brisbane (Dr. A. J. Turner). Type, I. 5686.

At a glance, apparently not even belonging to *Chalcolampira*, but structurally it certainly appears to belong to the same genus as *18-guttata* and *marmorata*. The apical joint of the maxillary palpi is not securiform, but is slightly larger than the subapical one. The elytral fasciae differ slightly on the four specimens under examination, they are almost equidistant and do not extend to the sides, the first is sometimes not continuous across the suture, the second is distinctly interrupted by the suture, and the third and fourth are continuous and narrowly connected along the suture; the third is the longest, the fourth the shortest, and the second the narrowest. The elytral punctures are really very small and not at all seriate in arrangement, but owing to "water-logging" they appear to be of moderate size, and in places subseriate in arrangement.

The colours of this and of the following species are now as described, but probably on living specimens the ground-colour is more or less green.

CHALCOLAMPRA TENUIS, n. sp.

Flavous, most of antennae infuscated; elytra with scarlet markings.

Head with a few small punctures, median line feebly impressed, clypeal suture conspicuous, an oblique impression extending backwards from each side. Antennae almost as in preceding species. *Prothorax* not thrice as wide as long, sides almost parallel; with some fairly large, irregular punctures on sides, minute ones elsewhere. *Elytra* long and thin, distinctly wider than prothorax at base, shoulders rounded, sides parallel to beyond the middle; with rows of moderately large punctures, larger in the fifth, eighth, and ninth rows near basal third than elsewhere; interstices with minute punctures. Inter-coxal process of *prosternum* obtusely bilobed at base. *Claws* strongly appendiculate. Length, 5 mm.

Hab.—Queensland: Cairns. Type (unique), I. 2692.

Structurally close to *18-guttata*, but with totally different markings. From the preceding species it is readily distinguished by the elytral punctures, apart from the markings, which are probably subject to variation; the prothorax is also considerably narrower. The elytral markings on the type appear to consist of four abbreviated equidistant fasciae, not extending beyond the fourth interstice, but all connected along the suture.

POROPTEROMELA, n. g.

Antennae long and thin. Apical joint of maxillary palpi widely securiform, distinctly longer than the preceding one, which is equi-laterally triangular. *Prothorax* short, apex moderately emarginate and much narrower than base, sides oblique and (as seen from below) in the forms of wide flanges. *Elytra* very wide, sides strongly rounded, epipleurae very wide and thin, continuing the slopes of the upper-surface. Inter-coxal process of *prosternum* sloping in front, grooved along middle, base bilobed. *Claws* each with a strong and acutely-armed basal appendix.

Owing to the great width of their epipleurae (curiously suggestive of the *Cassidides*) the elytra are actually wider than long: they might almost be regarded as a great exaggeration of the concave ones of *Paropsis* (near which the genus should perhaps be placed), their upper-surface is punctured as the rest of the elytra, and even on the under-surface the pitting is quite evident. I have known the Richmond River specimen for some years, but its general appearance being so very unlike any other Australian Chrysomelid had doubts as to its being really Australian until the sight of the Dorrigo specimen removed those doubts.

POROPTEROMELA EPIPLEURALIS, n. sp.

Of a dingy livid-flavous throughout.

Head with dense and fairly-large punctures, becoming smaller towards base. *Antennae* with third joint almost as long as first and second combined, fourth slightly shorter than fifth, the others slightly decreasing in length, but eleventh slightly longer than tenth. *Prothorax* about four times as wide as long, front angles slightly produced; punctures denser and slightly larger than on head. *Scutellum* subtriangular, impunctate. *Elytra* distinctly wider than prothorax at base, sides strongly and evenly rounded; strongly convex, with very dense punctures. *Legs* rather thin; first and fourth joints of about equal length. Length, 7-9 mm.

Hab.—New South Wales: Dorrigo (W. Heron), Acacia Creek (H. J. Carter), Richmond River. Type, I. 4867.

The colour is now as described, but as with so many similarly-coloured ones was probably more or less green in living specimens. Seen from the side, the body appears to be at its greatest height in the middle, this being at about the basal third of elytra: from this point the elytra appear to slope off in three planes, a somewhat rounded one towards the base, ending on each shoulder, and an almost even plane ending on each margin. The abdomen of the male is

flatter than that of the female, and the apical segment is feebly depressed in middle; the basal joint of the front tarsi is also somewhat larger and more rounded on sides.

GRAMMICOMELA, n. g.

Antennae rather long, subfiliform. Apical joint of maxillary palpi shorter than the preceding one, inner side slightly shorter than the outer, apex elliptic in outline. Inter-coxal process of *prosternum* not conspicuously elevated in front, base depressed and feebly bilobed, middle depressed. Metasternum with middle produced between middle coxae, concealing inter-coxal process of mesosternum and overhanging base of prosternum. *Claws* with a wide basal appendix.

The general outlines are somewhat suggestive of *Paropsis*, but the apical joint of the maxillary palpi is not securiform, and the elytral epipleurae are flat or feebly convex throughout. In some respects it approaches *Stethomela*, but the remarkable way the middle of the metasternum is produced, so as to take the place of the inter-coxal process of the mesosternum, should prevent it from being confused with any other Australian genus of the subfamily.

GRAMMICOMELA QUADRILINEATA, n. sp.

Reddish flavous; elytra flavous, with four conspicuous black lines; antennae (parts of two or three basal joints excepted), tarsi, and apex of tibiae black or infuscated.

Head with small and irregularly-distributed punctures; clypeal suture conspicuous, with three impressions from its hind margin: a median one extending to the forehead, and lateral ones extending to the hind margins of the eyes. Antennae extending to hind coxae, third joint almost twice the length of second, the succeeding ones somewhat flattened and dilated, and usually with a vague bluish gloss. *Prothorax* more than thrice as wide as long, sides rather strongly rounded in front, with the front angles lightly produced: with small scattered punctures, but a few of large size at extreme base towards each side. *Scutellum* triangular, impunctate. *Elytra* not much wider than prothorax at base, almost parallel-sided for more than half of their length; with regular rows of conspicuous but not very large punctures, the interstices with small scattered ones. *Legs* moderately long and stout. Length, 8-9½ mm.

Hab.—New South Wales: Dorrigo (H. J. Carter and W. Heron). Type, I. 4868.

The four black stripes commence at or close to the base of the elytra (on some specimens the two inner ones appear to

commence on the base of the prothorax), and are usually, but not always, conjoined close to the apex, they are situated on the third and seventh interstices, but partially extend on to the adjacent ones; the upper portion of the two basal joints of tarsi are pale along the middle, so that at first glance the tarsi appear to be grooved there; on two specimens the narrow prothoracic margins and the extreme margins of the basal half of the elytra are infuscated. On three of the specimens the seriate punctures on the elytra, owing to "waterlogging," appear to be much larger than they really are, rounded and close together; but they are really neither very large nor close together.

ETHOMELA, n. g.

Eyes transverse, coarsely faceted. *Antennae* long, joints more or less filiform. Apical joint of maxillary palpi conical, slightly longer than the preceding joint. *Epipleurae* of *elytra* narrow, feebly concave, disappearing before apex. Inter-coxal process of *prosternum* narrow, not keeled in front, base truncate, with the sides gently rounded; coxal cavities closed. *Legs* not very long; claws unarmed.

The species described below is quite an ordinary-looking one, with an elongate-elliptic outline much as in *Chrysomela*, *Calomela*, and some species of *Chalcolampra*, and like the species of those genera it is without the posthumeral depressions so conspicuous on many of the subfamily; but its structural features forbid its being referred to any of the three named. From *Chrysomela* (near which it should be placed) it is distinguished by the non-securiform apical joint of palpi, and truncate apex of inter-coxal process of prosternum; from the others it is distinguished by the unarmed claws; there is a feeble swelling at the base of each claw, but it is not at all dentiform in character, and is seen with difficulty, so that the claws should rightly be regarded as unarmed. The front coxal cavities are each closed behind by a narrow ridge, obliquely cleft at its narrowest. In the table of genera it is associated with *Lamprolina*, with which, in general appearance, it has little in common.

ETHOMELA DECIPIENS, n. sp.

Reddish-castaneous, appendages somewhat paler, antennae lightly infuscated towards apex; elytra coppery-brown.

Head with numerous rather small punctures; clypeal suture well defined. *Prothorax* about thrice as wide as long, sides evenly rounded and almost as wide at apex as at base; with numerous small scattered punctures, and some fairly

large ones towards sides. *Scutellum* semi-circularly triangular and inpunctate. *Elytra* very little wider than prothorax, parallel-sided to near apex; with regular rows of not very large but conspicuous punctures, becoming smaller posteriorly; interstices with very few punctures. Length, $3\frac{1}{2}$ -5 mm.

Hab.—Australia (C. French); Western Australia: Lake Austin and Cue (H. W. Brown). Type, I. 3398.

Structurally apparently close to description of *Chrysomela micans*, but elytra (on the six specimens in the Museum) not at all green, and antennae pale almost throughout. The basal joint of the front tarsi is wider than the third on the male and about the same width on the female.

JOHANNICA METALLICA, n. sp.

Metallic-blue or purple; in places bronzy or brassy.

Head with irregular punctures dense only on clypeus; with a fairly large median fovea, and near each side of same a narrow deeply-impressed line, a less deeply-impressed line almost touching each eye. Antennae stout, third joint longer than first or fourth, sixth joint slightly inflated on one side, seventh more noticeably so, the three following joints strongly inflated, eleventh joint rather short and rounded, but semi-double. *Prothorax* about twice as wide as long, with coarse irregular punctures, and towards each side with from one to three irregular depressions. *Elytra* with rows of fairly large punctures, becoming smaller posteriorly, but each elytron with about nine much larger punctures or small foveae (some semi-double) on the basal two-thirds. Length, $9\frac{1}{2}$ -11 mm.

Hab.—Queensland: Stannery Hills and Annan River (H. W. Brown). Type, I. 4857, in South Australian Museum; co-type, K. 18797, in Australian Museum.

The head is mostly brassy; the antennae are almost entirely deep-purple; most of the prothorax is brassy or brassy-purple, only small parts of the base being bluish, the scutellum is entirely brassy or bronzy; on the elytra the shoulders and a large subapical patch (but not the extreme apex) are brassy, with the colour rapidly changing through coppery-green to the general purple tone; the larger punctures or foveae are more or less metallic; parts of the sterna, base of abdomen, and middle of femora are more or less coppery. The depressions on the sides of the prothorax are not alike on any two of the five specimens before me, and sometimes differ on the sides of an individual; they are mostly due to clusters of large punctures. The antennae are very similar to those of *gemellata*, but the colours of the prothorax and elytra are very different; the elytral punctures

are much larger and the foveae much smaller, the prothoracic punctures are also considerably larger: in these respects it also differs from *striata*, and that species has some of the antennal joints still more conspicuously inflated.

GEOMELA, n. g.

Eyes rather coarsely faceted and prominent. Antennae of variable length, third joint rather long. Maxillary palpi rather short, apical joint subconical and longer than the preceding one. Epipleurae of *elytra* not very wide at the base and disappearing before apex, gently convex, or at most flattened in parts. Inter-coxal process of *prothorax* wedge-shaped in front, base truncate or gently rounded: front coxal cavities widely open behind. *Abdomen* with a conspicuous lamella or plate behind each hind coxa. Legs moderately stout; claws unarmed.

A genus of small beetles, whose species have the outlines of the head, prothorax, and elytra forming an almost continuous oval or ellipse. The species all live on or close to the ground, or in moss or fallen leaves; the typical species may be seen in myriads during floods in the Hawkesbury River; it has been known to me for many years, but was previously passed over owing to doubts as to its generic position; some specimens of it were sent to the late Rev. T. Blackburn for his opinion, and especially as to if he thought they represented an aberrant species of *Chalcolampra*. In reply he wrote:—"The small Chrysomelid cannot be placed near *Chalcolampra* on account of its front coxae open behind. It is very close to *Plagioderia*, but differs, *inter alia*, by the form of its elytral epipleurae, the smaller third joint of its tarsi, and the peculiar carina on its ventral segments. The third joint of its tarsi is unusually emarginate for a Chrysomelid, but this is the case also in *Plagioderia*. I cannot make its claws anything but simple, though I have had them under a microscope." The examination of several additional species has convinced me that a new genus is required for it, and although in its habits and general appearance (resembling, on a small scale, several of the more rounded species) it certainly appears to be allied to *Chalcolampra*, in the table of genera it is rather widely separated from same and associated with *Pseudoparopsis* (the genus proposed by Blackburn for the reception of the Australian species previously referred to *Plagioderia*). In the species where specimens have been available for destructive examination, the front coxal cavities are seen to be widely open behind, but normally the four front coxae are so close together that unless the prothorax be separated from the mesothorax it is

often difficult to be sure of this point. In *Chalcolampra*, for the entire width behind each of the front coxae, there is a narrow process whose narrowest portion is obliquely cleft; the process is fairly distinct on many of the larger species, but to see it clearly on some of the smaller specimens some manipulation is necessary. There is a curious marked-off division on each side of the abdomen behind the hind coxa, much as in many *Coccinellidae*; in that family they are sometimes called abdominal lamellae or plates, and the term, being a convenient one, I shall call them abdominal lamellae; smaller but somewhat similar lamellae are to be seen in the ground-frequenting species of *Chalcolampra*, but are practically absent from *IS-guttata* and allied species; they are also present on *Cyclonoda*. The clypeal suture is sometimes represented by a distinct but scarcely-impressed line, but usually by a more or less distinct and isolated fovea on each side. The antennae vary from moderately short and with fairly-wide subapical joints to decidedly long and thin. There is a slight swelling about the base of each claw, but it does not appear to be in any way dentate, so that it must be regarded as simple. Typical species, *blackburni*.

GEOMELA BLACKBURNI, n. sp.

Black, with a coppery gloss; five or six basal joints of antennae, legs, and tip of abdomen more or less reddish.

Head with numerous distinct punctures between eyes and very feeble ones elsewhere; with a small round foveae on each side in front. Antennae slightly passing base of prothorax, first joint stout, third as long as fourth and fifth combined, seventh to eleventh rather wide, the seventh to tenth transverse. *Prothorax* more than thrice as wide as the median length, base gently sinuous; with conspicuous punctures on sides and across apex, but very minute elsewhere. *Scutellum* with rounded sides. *Elytra* with sides gently rounded and continuous with those of prothorax; with regular rows of fairly large punctures; interstices with minute punctures. Inter-coxal process of *prosternum* elevated and wedge-shaped in front. *Abdomen* with basal lamellae large, each with a narrow process projecting obliquely backwards and terminated some distance from apex of segment. Length, $2\frac{1}{2}$ -3 mm.

Hab.—New South Wales: Windsor, Sydney; Victoria: Emerald; South Australia: Mount Gambier (A. M. Lea), Lucindale (B. A. Feuerheerdt). Type, I. 3393.

The abdomen is usually pale only at the tip, but sometimes the red is obscurely continued on the sides and towards the base; the sides of the elytra are also occasionally diluted

with red. The sexual differences, apart from a greater convexity of the abdomen in the female, are but slight.

Var. A. Four specimens from Windsor differ from the typical form in being of a dark metallic-green, with the femora rather deeply infusate in middle and with a greenish gloss.

GEOMELA BIFOVEATA, n. sp.

Black, with a slight bronzy gloss, under-surface (including elytral epipleurae) more or less conspicuously diluted with red, appendages almost flavous, but apical half of antennae lightly infuscated.

Head with very small punctures; a fairly large but not sharply defined and somewhat oblique fovea close to the base of each antenna. *Antennae* moderately long and rather thin, first joint (excluding a short basal portion) globular, third slightly longer than fourth and fifth combined, the others gently increasing in width, but none transverse. *Prothorax* almost four times as wide at the base as the median length; with numerous small but distinct punctures, rather larger about base than elsewhere. *Elytra* with regular rows of fairly large punctures; the interstices with rather sparse and small but fairly distinct ones. Inter-coxal process of *pro-sternum* gently convex, dilated at each end. *Abdomen* with basal lamellae large and rounded posteriorly. Length, $3\frac{1}{4}$ - $3\frac{1}{2}$ mm.

Hab.—Tasmania: Mount Wellington, in moss (H. H. D. Griffith), Hobart, in moss, Latrobe, in flood debris (A. M. Lea). Type, I. 5668.

From some directions the cephalic foveae appear to be feebly connected, but from most directions they seem to be completely isolated. The elytra are rather more convex and with the sides more strongly rounded than on *blackburni*.

A specimen, from the old collection, differs in having the cephalic foveae more pronounced, upper-surface almost without punctures (except for the seriate ones on elytra), but those on the abdomen rather more distinct, the antennae are distinctly longer and thinner, but the proportionate lengths of the joints are the same. It possibly represents a new species, but being without a locality label it is undesirable to describe it as such.

GEOMELA CIRCUMFLAVA, n. sp.

Black, with a coppery gloss; front of head, sides of prothorax and of elytra (including epipleurae), and a stripe on each side from apex almost to summit of apical slope on third interstice conspicuously flavous; under-surface dark reddish-brown, becoming paler outwardly; appendages more or less flavous.

Head with small and rather indistinct punctures; clypeal suture curved deep and non-foveate. *Antennae* rather long and thin, none of the joints transverse, third as long as fourth and fifth combined. *Prothorax* more than thrice as wide as long; with numerous minute punctures and a few of larger size irregularly distributed. *Elytra* with regular rows of fairly large punctures; the interstices with sparse and minute ones. Inter-coxal process of *prosternum* rather narrowly elevated in middle. Basal segment of *abdomen* with lamellae moderately large and rounded posteriorly. Length, 3 mm.

Hab.—South Australia: South Para Hills (J. G. O. Tepper). Type (unique), I. 3394.

The general outlines are much as those of *blackburni*, but the conspicuously flavous margins should render the species easy of recognition.

GEOMELA BRYOPHAGA, n. sp.

Blackish-brown or black, with conspicuous markings; under-surface variable in colour, appendages flavous or reddish-flavous, the knees infuscated.

Head with minute punctures. *Antennae* rather long and thin, third joint very little longer than fourth, eleventh about as long as ninth and tenth combined. *Prothorax* about four times as wide as long, base gently and evenly rounded; with irregularly distributed and rather minute punctures. *Scutellum* very small. *Elytra* with small and vaguely impressed punctures in feeble striae; the interstices impunctate. Inter-coxal process of *prosternum* rather narrowly elevated in middle. Basal lamellae of *abdomen* small and rounded posteriorly. Length, $2-2\frac{1}{4}$ mm.

Hab.—Tasmania: Mount Wellington, from moss and fallen leaves; Hobart, from moss (H. H. D. Griffith and A. M. Lea). Type, I. 5669.

The colour of the upper-surface varies from a dark piceous-brown to deep-black, with a slight metallic gloss; the head is more or less obscurely reddish, each front angle of the prothorax is flavous, the marking usually almost square and sharply limited (extending to about one-third from the base), but occasionally not sharply defined internally, the margins of the elytra are narrowly flavous, with the marking continued along the suture almost to the summit of the apical slope. On some specimens almost the whole of the under-surface is reddish or flavous, but the front angles of the prosternum and the elytral epipleurae are flavous on all those before me. From some directions the head appears to have a conspicuous median line, but it is really feeble; the clypeal suture, according to the point of view, appears very distinct,

very feeble, or represented by a small depression at each end. From some directions the prothorax appears to be feebly shagreened. The outlines of the elytra are continuous with those of prothorax, but more rapidly narrow to the apex than in all other species of the genus.

OOMELA, n. g.

Eyes rather coarsely faceted. *Antennae* rather long, joints more or less filiform. *Maxillary palpi* short, apical joint briefly conical, the subapical joint distinctly wider. *Epipleurae* of elytra narrow, flat, or gently concave. *Inter-coxal process* of *prosternum* rather narrowly triangular in front, rather widely dilated and flat at base, with the middle feebly notched; front coxal cavities closed. *Legs* rather short; claws each with a rather large basal appendix.

A genus of small species, several of which at first sight appear to belong to *Paropsis*, but they are readily distinguished therefrom by the non-securiform palpi and elytral epipleurae not overhanging. The general characters are those of *Chalcolampra*, but the small size, oval outlines, and general appearance are very different to those of most species of that genus; the eyes, as a rule, are slightly less prominent and rather less coarsely faceted, and the outlines of the prothorax and elytra are more or less continuous (but so they are on some species of *Chalcolampra*); the inter-coxal process of the mesosternum is gently produced in the middle, fitting into a slight notch on the prosternal process, but unless the prothorax and mesothorax are separated both process and notch are difficult or impossible to be seen; the base of the prosternal process, however, is subtriangularly dilated on each side and flat, and level or almost level with the middle; in *Chalcolampra* the base is always depressed below the middle and more or less rounded, merging into the general sculpture instead of distinctly elevated above same. There are abdominal lamellae somewhat as in some species of *Geomela*, but smaller, so that it is necessary to force the hind legs aside to see them clearly. The front coxal cavities are each closed behind by a very narrow ridge; but when the prothorax and mesothorax are separated the lower parts of the front coxae are readily seen. Type of genus, *variabilis*.

OOMELA VARIABILIS, n. sp.

Reddish-castaneous, usually with some parts black or infusate.

Head almost impunctate, a shallow depression close to each eye. *Prothorax* more than thrice as wide as long, sides

gently rounded and decreasing in width to apex; with small scattered punctures. *Elytra* at base very little wider than prothorax, sides gently rounded; with regular rows of rather small punctures, becoming much smaller posteriorly; interstices with very sparse punctures. Length, 3-4 mm.

Hab.—Queensland: Mount Tambourine (Henry Hacker and C. Wild); New South Wales: Acacia Creek (H. J. Carter). Type, I. 5684.

Of the eight specimens before me no two are exactly alike; but as two are almost alike, one of these has been selected as the type; its head is almost entirely black, with the apical two-thirds of antennae blackish; the elytra have the sides from the middle and the apex rather widely infuscated and with indications of a median fascia. One specimen has the head, prothorax (a fairly-distinct reddish spot towards each side excepted), apical two-thirds of elytra (a large, somewhat irregular, completely-enclosed spot on each excepted), and the legs black with a bluish gloss, the antennae are black, except a few of the basal joints. Another specimen is very similar, except that the legs are not so dark. Two specimens have the basal portion of head blackish, apical half of antennae and apical sides of elytra infuscated; with, on one of them, vague indications of remnants of a median fascia. Another specimen, except for a slight infuscation of the antennae, is entirely pale. The eighth specimen, except for its elytra, agrees with the preceding one, but the elytra are marked with ten conspicuous rounded spots: four near base, four just beyond the middle, and two near apex. There are small abdominal lamellae, but to see these clearly the legs must be pushed aside.

OOMELA TRIMACULATA, n. sp.

Bright reddish-castaneous, about three-fourths of antennae deeply infuscated, elytra with three conspicuous black spots: one, common to both, touching the scutellum, and a large obliquely oval one on each side beyond the middle.

Head scarcely visibly punctate. *Prothorax* at base fully four times as wide as long; with sparse and very minute punctures. *Elytra* with sides rather strongly rounded and widest at basal third; with rows of minute and rather distant punctures, the interstices impunctate or almost so. Length, $2\frac{1}{4}$ - $2\frac{1}{2}$ mm.

Hab.—Queensland: Cairns district (Blackburn's Collection and A. M. Lea). Type, I. 3396.

Two specimens have elytral markings practically identical, but on a third they are reduced to infusate stains and

somewhat differently placed, each elytron having an obscure stripe close to the suture behind (but not touching) the scutellum, and the stripe obscurely connected with remnants of the post-medio-lateral spot. The seriate punctures on the elytra are actually very small, but owing to "waterlogging" they appear to be of considerable size. The abdominal lamellae are small and usually concealed.

OOMELA ELLIPTICA, n. sp.

Bright red or reddish-castaneous, elytra more or less black, with a slight metallic gloss, apical three-fourths of antennae rather deeply infuscated, middle of base of prothorax moderately infuscated.

Head with fairly numerous but shallow and ill-defined punctures, becoming denser and more distinct on clypeus. *Prothorax* almost four times as wide as long, sides rather strongly rounded in front; with numerous small punctures becoming more distinct (but not very large) about base. *Elytra* (except at extreme base) with outlines continuous with those of prothorax, sides almost parallel for most of their length; with regular rows of conspicuous but not very large punctures, becoming small posteriorly; interstices with very minute punctures. Length, $3\frac{1}{2}$ - $3\frac{3}{4}$ mm.

Hab.—Northern Queensland (Blackburn's Collection), Cairns (E. Allen), Mount Tambourine (A. M. Lea). Type, I. 3397.

The three specimens before me differ somewhat in the colour of the elytra; on the type these appear to be deep black with a slight greenish gloss, but on close examination a portion about the middle appears to be very obscurely diluted with red; on the second specimen the greenish gloss is more evident and the paler median portion is fairly distinct; but on the third each elytron has a large, round, conspicuous red spot just before the middle. On the type the tibiae are rather strongly infuscated apically. The abdominal lamellae are very short. The general outlines are rather more elliptic than on most species of the genus.

OOMELA PULCHRIPENNIS, n. sp.

Bright red, apical two-thirds of antennae infuscated; elytra deep purple.

Head rather strongly convex, with a few small punctures in front and with a conspicuous depression in middle of clypeal suture. *Prothorax* about four times as wide as long, sides rather strongly rounded, but front angles slightly projecting laterally; with numerous rather small (but for the

genus fairly large) punctures. *Elytra* at base slightly wider than prothorax, sides gently rounded; with regular rows of fairly large punctures, becoming smaller posteriorly; interstices with very minute punctures. Length, 4 mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type (unique), I. 2677.

Despite great superficial resemblance, on a reduced scale, of this species to *Stethomela purpureipennis*, it seems impossible to refer it to *Stethomela*, the apical joint of the maxillary palpi being so different. Under a Coddington lens the maxillary palpi appear to have the apical joint elongate-conical, but on closer examination the apical joint appears to be really very short, but continuing the lines of the subapical one. The hind femora are unusually stout (much as on many of the *Halticoides*) and quite conceal the small abdominal lamellae.

EXPLANATION OF PLATES.

PLATE XXXII.

Fig.	1.	...	<i>Eutermicolu sculpticollis</i> , Lea.
"	2.	...	<i>Phyllotocidium pictum</i> , Lea.
"	3.	...	<i>Eupsalis pictipennis</i> , Lea.
"	4.	...	<i>Gastrophacodes ventricosus</i> , Lea.
"	5.	...	<i>Uracanthus insignis</i> , Lea,
"	6.	...	" <i>dubius</i> , Lea, tips of antennae.
"	7.	...	" <i>fuscus</i> , Lea, tip of elytron.
"	8 and 9.	...	" <i>discicollis</i> , Lea, tip of elytron.
"	10 and 11.	...	" <i>pertenuis</i> , Lea, tip of elytron.
"	12	...	" <i>parvus</i> , Lea, tip of elytron.
"	13.	...	" <i>tropicus</i> , Lea, tip of elytron.
"	14.	...	" <i>parallelus</i> , Lea, tip of elytron.
"	15.	...	" <i>lateroalbus</i> , Lea, tip of elytron.
"	16.	...	" <i>albus</i> , Lea, tip of elytron.
"	17.	...	" <i>loranthi</i> , Lea, tip of elytron.
"	18	...	" <i>suturalis</i> , Lea, tip of elytron.
"	19 to 21.	...	" <i>longicornis</i> , Lea, tip of elytron.
"	22.	...	" <i>simulans</i> , Pasc., tip of elytron.
"	23 to 25.	...	" <i>strigosus</i> , Pasc., tip of elytron.
"	26 and 27.	...	" <i>marginellus</i> , Hope, tip of elytron.
"	28.	...	" <i>pallens</i> , Hope, tip of elytron.
"	29 and 30.	...	" <i>bivittatus</i> , Newm., tip of elytron.
"	31.	...	" <i>acutus</i> , Blackb., tip of elytron.
"	32.	...	" <i>corrugicollis</i> , Lea, tip of elytron.
"	33.	...	" <i>glabrilineatus</i> , Lea, tip of elytron.
"	34.	...	" <i>ater</i> , Lea, tip of elytron.
"	35.	...	" <i>ventralis</i> , Lea, tip of elytron.
"	36.	...	" <i>inermis</i> , Lea, tip of elytron.

PLATE XXXIII.

(Details of species of *Bolboceras*.)

- Figs. 37 to 42. *B. proboscideum*, Schreib, produced front of head.
 „ 43 and 44. *B. armigerum*, MacL., front view of clypeus.
 „ 45. „ *B. variolicolle*, Lea, front view of clypeus.
 „ 46 and 47. *B. insigne*, Lea, front view of clypeus.
 „ 48 and 49. *B. trifoveicolle*, Lea, front view of clypeus.
 „ 50. „ *B. quinquecorne*, Lea, front view of clypeus.
 „ 51. „ *B. dacoderum*, Lea, front view of clypeus.
 „ 52 and 53. *B. taurus*, Westw., front view of clypeus.
 „ 54 and 55. *B. contextum*, Lea, front view of clypeus.
 „ 56. „ *B. pentagonicum*, Lea, front view of clypeus.
 „ 57. „ *B. hoplocephalum*, Lea, front view of clypeus.
 „ 58 and 59. *B.* „ „ Lea, front view of clypeus and
 of cephalic horns.
 „ 60. „ *B. pentagonicum*, Lea, back view of clypeus and
 ocular canthi,
 „ 61. „ *B. bainbridgei*, Westw., head from above.
 „ 62. „ *B.* „ „ Westw., head and prothorax from
 the side.

PLATE XXXIV. (54)

- Figs. 63 to 70. *Leptops duponti*, Boi., variations, principally in
 size, of common form.
 „ 71 to 73. „ „ „ Boi., var. *interioris*, Blackb.
 „ 74. „ „ „ Boi., common form with pec-
 toral armature (slight pro-
 jection in front of front legs)
 showing.
 „ 75. „ „ „ Boi., large specimen inter-
 mediate between common
 form and *interioris*.
 „ 76. „ „ „ Boi., var. *obsoletus*, Lea.
 „ 77 and 78. „ „ „ Boi., var., *carinatus*, Lea.

PLATE XXXV.

- Figs. 79 to 86. *Leptops nitidiventris*, Lea.
 „ 87 to 89. „ „ *pilulifer*, Lea.
 „ 90 „ „ „ *amplipennis*, Lea.
 „ 91 and 92. „ „ *muricatus*, Pasc.
 „ 93 and 94. „ „ *pilulifer*, Lea, varieties.

PLATE XXXVI.

- Figs. 95 to 97. *Leptops biordinatus*, Blackb.
 „ 98 to 104. „ „ „ var. *raucus*, Blackb.
 „ 105 to 110. „ „ „ *gravis*, Blackb.

(54) Plates xxxiv. to xxxix. are from photographs by Mr. H. Hale,
 of the South Australian Museum.

PLATE XXXVII.

- Figs. 111 to 122. *Leptops areolatus*, Blackb. (fig. 112 type of species; fig. 111 type of var. *rudis*, Lea; fig. 114 type of var. *frenchi*, Lea).
 „ 123 to 126. „ *browni*, Lea.

PLATE XXXVIII.

- Figs. 127 to 132. *Leptops contrarius*, Blackb.
 „ 133. ... „ *acerbus*, Pasc. (?)
 „ 134. ... „ „ Pasc.
 „ 135 to 137. „ *colossus*, Pasc.
 „ 138 to 140. „ *echidna*, W. S. Macl. (fig. 139 co-type of *planicollis*, Blackb.).
 „ 141 and 142. „ *hercules*, Lea.

PLATE XXXIX.

- Figs. 143 to 145. *Leptops elongatus*, Lea (fig. 144 type, figs. 143 and 145 described varieties).
 „ 146 to 148. „ *parvicornis*, Lea.
 „ 149 and 150. „ *nitidicollis*, Lea.
 „ 151 to 153. „ *duboulayi*, Pasc.
 „ 154 and 155. „ *cacozelus*, Lea.
 „ 156 to 158. „ *ferus*, Pasc. (the real *tribulus*, Fab.).
-